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ORIGINAL ARTICLES.

TRACHEOTOMY IN PSEUDO-MEMBRANOUS LARYNGITIS.

Read in the Section on Diseases of Children, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

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In the city of Detroit during the year ending May 31, 1887, there were recorded in the health department eighty-two deaths resulting from membranous croup, and thirty-eight deaths from diphtheritic croup, a total of 120 deaths from pseudo-membranous laryngitis.

A certain number of cases of pseudo-membranous laryngitis, classed as diphtheria cannot, of course, be included, and for this reason the number given is probably a little below the correct one. During this period, as learned from careful inquiry of the physicians of the city, there were not more than fifteen operations of tracheotomy and intubation performed for the relief of this disease. It will thus be seen that in that city, only one child in eight suffering from laryngeal stenosis, had given to it one of the only two therapeutic measures that would give it a chance for its life.

Although in some communities, operative interference in pseudo-membranous laryngitis may be more popular than in Detroit, it is probable that the figures from that city fairly represent the relative number of operations to cases of pseudo-mebranous laryngitis in the large cities, while in the country the relative number is much lower.

Thus, in the year 1884, the mortality from croup alone, in twenty cities of the United States, with a population aggregating 7,051,000 was 2,819. Including the many deaths returned as diphtheria, diphtheritic laryngitis, etc., it will be seen that the annual mortality from pseudo-membranous laryngitis in the United States must be at least 6,000. So far as I learn, the latest published collection of statistics of tracheotomy and intubation performed in this country does not aggregate 2500 cases.

Operative interference, then, in pseudo-membranous laryngitis is not popular.

Considering the frequency of croup, its great mortality when left to medical treatment alone, and the average percentage of recoveries after operation, there is no single operation in surgery that can save so many lives as tracheotomy, and it is difficult to understand why the profession is so slow to take it up.

Of the various objections to the operation, real and imaginary, which have been raised from time to time, and which evidently still hold sway over the minds of many practitioners, it is unnecessary for me to speak. They are familiar to you, and have been refuted by able writers, and the facts remain that pseudo-membranous laryngitis, when it has reached the stage demanding operative interference, is almost invariably fatal, and that tracheotomy or intubation can save from 20 to 50 per cent. of the cases operated upon. With such statistical evidence in its favor, arguments against operative interference in croup are powerless.

The objections to tracheotomy are no greater than the objections to many other surgical operations, and if applied to them would put an end to operative interference in all grave conditions. In the laryngeal surgery of the adult such objections have no weight, as we find in all diseases attended by laryngeal stenosis, tracheotomy is performed either as a palliative or curative measure. Even in carcinoma of the larynx, when nothing can be gained but a little prolongation of a miserable life, it is always performed.

I believe, then, that if croup were a disease of adult life instead of childhood, tracheotomy would be one of the most common operations in surgery. Children with this disease unable to demand relief, fall victims to the sentimental sympathy of their parents, or the hesitancy of their physicians. Too often it happens that the physician proposes the operation, the patients object, and, by his half-hearted advocacy, the physician encourages the objection. In my short experience I have seen this happen so many times that I have come to look upon it as the chief reason for the infrequent performance of the operation.

I fully realize the difficulties which surround the physician when he is urging operative interference. It is an emergency for which parents are rarely prepared and they instinctively reject it. The physician's duty is not done when he

simply proposes the operation and then takes this instinctive objection as final. To the grief-stricken parents, the average chances of recovery after either intubation or tracheotomy seems very small indeed, and hardly worth the trial, and it is our duty to show, by a frank and hopeful statement of the facts, the great value of the operation, and the earnest surgeon fully believing in this, but rarely will fail to overcome opposition.

Until the introduction of intubation by the remarkable labors of Dr. O'Dwyer, tracheotomy was the only surgical procedure for the relief of croup. The indication for the operation was the presence of laryngeal stenosis, and the physician had to determine only the degree of obstruction which made the operation imperative. Now, to him skilled in the performance of both operations, and confronted by dangerous laryngeal stenosis from croup, the question arises, shall intubation or tracheotomy be made?

The most recent systematic writer on croup, Dr. Geo. S. Gay, (Reference Handbook of the Medical Sciences, Article Croup,) says of the results of tracheotomy in America: "The statistics of results from the operative treatment of croup are very extensive, and those of late years, in America, are pretty uniform in their character. The formidable array given to the profession by the arduous labors of Mastin, Cohen, and many others, comprising over 11,000 cases as collated by Agnew, shows that from one-fourth to one-third of the cases of tracheotomized croup recover. Cohen's success has been remarkable. He reports 110 recoveries in 166 selected cases, most of them occurring in private practice. The experience of Jacobi, Cheever, Ripley, and many other American surgeons, while not as favorable as that of Cohen, is yet very satisfactory, about one-third of their cases terminating favorably." Dr. Gay adds his record of eighty six cases with twenty-nine recoveries, (33 per cent.), and the record of the Boston City Hospital 491 cases with 124 recoveries, (25 per cent.).[1]

The most complete statistical record of intubation is that presented to the recent International Congress by Dr. F. E. Waxham, and gives 1,007 cases with 266 recoveries (26.07 per cent.).

From these figures it will be seen that the results up to the present time show intubation as a life-saving operation in croup to be inferior to tracheotomy. It is not improbable, however, that with fuller experience with intubation the instruments and the method of use may be so perfected as to give results equal to tracheotomy.

Some of the faults of the method are mechanical, and doubtless will be overcome; others I think are inherent to it and insurmountable.

The ease and rapidity with which intubation can be performed, the ready consent that is usually given by parents, and the comparatively simple after-treatment, will continue to make it the favorite operation with many physicians. But leaving out of consideration these decided but sentimental advantages, and looking at the question only of the comparative life-saving power of the two operations, is it not possible that they can be made allies in the surgical therapeutics of croup? Is it not possible that in certain conditions, and in certain classes of cases each operation has special features that give it advantages over the other? In other words, can not the indications for tracheotomy be formulated anew, and with especial reference to its relation to intubation?

I shall not presume fully to indicate the distinct provinces of the two operations. Indeed, with our short experience with intubation, especially in its relation to tracheotomy, that is not possible; only the future accumulation of data will enable us to establish these points. I shall give simply the rules that I have framed for my own future guidance, and formed almost entirely from my own experience, and I offer them simply as a contribution to the settlement of the question.

My experience with the two operations is as follows:

To the time I commenced to perform intubation, about August 1, 1886, I had performed thirty-four tracheotomies with seventeen recoveries. Since then, I have made three primary operations, with one recovery, and five tracheotomies secondary to intubation with no recoveries.

To the present time, I have performed intubation nineteen times, with two recoveries. Two of the cases of intubation were infants 12 months old, and in the most unfavorable condition for operative interference. Three others were of such character that there was no hope of anything but temporary relief of the dyspnœa; two of them were suffering with grave septic diphtheria, and one had croup secondary to grave scarlatina. The remaining 14 cases averaged about the same as those on which I have performed tracheotomy.

In determining the comparative life-saving value of intubation, the three last cases, and perhaps the whole five, could very properly be omitted, as I should not have performed tracheotomy upon them. I cannot agree with some writers, who hold that dangerous stenosis of the larynx is an indication for tracheotomy regardless of the general condition of the patient. It seems hardly justifiable to subject a child suffering from almost certainly fatal septic diphtheria, to the additional pain of tracheotomy, merely to prolong its life a few hours. The performance of such operations accomplishes nothing for the patient, and often does irreparable injury to the operation itself. Unless I can offer some hope of recovery, I do not advise tracheotomy.

[1] Since writing the above I have learned that Dr. Gay was mistaken in giving American surgeons the credit of such a large percentage of recoveries. Some of the statistics he quotes were taken from European as well as American sources.

From a glance of this series of sixty-one cases, it will be seen that the results with tracheotomy approach those that have been obtained by the most successful operators, while with intubation they are very low.

For the sentimental reasons before mentioned, I have persisted in the O'Dwyer operation, hoping, as I gained larger experience, to show the good results obtained by some other operators, but with my long continued unfortunate results I do not feel justified in giving it, in the future, the preference to tracheotomy. Therefore I have formulated the indications for tracheotomy in its relation to intubation thus:

Intubation may be given the preference over tracheotomy:

1. In infants under the age of 18 or 20 months. In infants of this tender age the results of intubation have been very good, and considering the difficulty of operation, and readiness with which these young patients succumb to the shock of severe cutting operations, the milder operative procedure is to be preferred.

2. In all cases in which, from the character of the symptoms, and the progress of the case, it is presumable that the exudate is limited to the larynx and the upper part of the trachea. My two successful cases were of this character. Neither coughed up membrane after the introduction of the tube, or had any difficulty in breathing, and each expelled the tube in a fit of coughing —one on the third, and the other on the fourth day.

3. Whenever from the hopeless character of the disease there is nothing to expect but to give relief from dyspnœa, and to make death comparatively easy.

Tracheotomy is to be preferred:

1. Whenever the pseudo-membrane is extensive.

The pseudo-membrane, even when expelled immediately after operation, almost always reforms, and necessitates the use of solvent substances in the trachea, either by the spray or by instillation. After intubation, local medication of trachea is almost impossible, while after tracheotomy, with the diseased trachea in sight and within easy reach, it can be done with perfect ease. Further, the expulsion of membrane and mucus, especially in an exhausted child, is very difficult after intubation, and the attendant can give no assistance; after tracheotomy the reverse is the case.

2. When, for any reason the operation is delayed until the patient is exhausted and deeply cyanotic, or is moribund. To give such patients a chance for recovery the relief of the dyspnœa must be perfect and immediate. The irritability of the reflex centres is so obtunded, and the muscular debility is so great, that the child does not make efficient efforts to clear its trachea. The trachea and large bronchi are filled with soft membrane and mucus, and for several hours after the circulation is relieved the deeply congested mucous membrane pours forth a great quantity of secretion. So far as my observation goes, these children die in a few hours after intubation, worn out by imperfect respiration, and their ineffectual efforts to keep their tubes clear.

Case 1.—Boy, aged 2½ years. Moribund from severe dyspnœa of over twenty-four hours duration. Intubation 9 o'clock A.M. A little relief, but the tube filled up, and 11 o'clock A.M. the dyspnœa was again very severe. Tube removed and reinserted. No relief; death at 1 o'clock P.M.

Case 2.—Girl, aged 6 years. Moribund from eighteen hours of severe dyspnœa. Intubation at 1 o'clock P.M. A little relief, but all efforts failed to make the child clear the trachea. Tracheotomy at 2 o'clock P.M. with the O'Dwyer tube *in situ*. Expulsion of great mass of membrane and mucus with perfect resuscitation. Child died of pneumonia on the fourth day after the operation.

Case 3.—Child aged 2½ years. No membrane in the pharynx. Grave dyspnœa commenced at 5 o'clock A.M. Cyanotic at 9 o'clock A.M. Intubation. Respiration was fairly easy, but the child did not rally perfectly. The pulse was very weak. The tube commenced to fill in an hour, the child could not clear it, and died asphyxiated at 2 o'clock P.M.

Case 4.—Child, aged 4 years. She had been cyanotic for several hours. Intubation at 6 o'clock P.M. There was great relief of the dyspnœa, but the trachea was never perfectly clear of membrane. She began to fill up during the night and died eighteen hours after the operation.

Case 5.—Girl, aged 8 years. No membrane visible in the pharynx, but there was a little bad smelling discharge from the nose. She was cyanotic when I saw her. Intubation at 3 o'clock P.M. Expulsion of a large mass of membrane and relief from dyspnœa. The trachea began to fill in a few hours, and she died during the night.

All of these cases were seen in consultation. They were very similar in that all of them were dying from asphyxia alone. In all the pharynx was clear, and one only, *Case 5*, showed any constitutional signs of diphtheria. The condition of *Case 3*, was the most desperate of all, and she was relieved by a secondary tracheotomy and lived four days. In a number of tracheotomies that I have performed under equally desperate circumstances, the operation has never failed to give complete relief, and some of the children have recovered. But one child in my series of primary tracheotomies died within forty-eight hours after the operation. In these urgent cases intubation may be performed as a preliminary

measure to give time to properly prepare for tracheotomy. The temporary relief will give time, also, for a deliberate operation. The internal tube should be left in place and extracted when the trachea is opened. It greatly facilitates the operation.

3. In all cases in which the constitutional condition of the patient makes medication and feeding by the stomach imperative. The well-known difficulty of properly nourishing children after intubation may seriously compromise the result when we have to do with the grave debility of diphtheria.

It will not be possible, always, to definitely place cases of croup into one or another of the above classes. Many times the physician will be in doubt as to which operation is to be preferred. In deciding he should be guided by his relative success with the two operations. He who can obtain the average good results of intubation may try it before resorting to tracheotomy. The surgeon who has 30 per cent. or more of his cases of tracheotomy recover, should in justice to his patient select that operation. The utility of tracheotomy after intubation has been performed, and has failed to give relief, is a subject upon which there has been but limited observation. Five cases have come under my care.

Case 1.—Girl, aged 6 years. No membrane in pharynx. Intubation on the evening of the third day of the dyspnœa. She passed a quiet night, but the breathing was continually somewhat embarrassed, and at times when the tube was partially filled with secretion the dyspnœa was quite severe. The next morning the child's temperature was 102½° and the pulse was 120. She breathed hard, was unable to clear the trachea, and was commencing to show signs of exhaustion. At 10 o'clock A.M., the tube was removed and replaced. A large piece of membrane was dislodged, after which she breathed easier. In an hour or two, however, the trachea again filled. She struggled hard for several hours before I was summoned. I saw her at 7 o'clock P.M., and immediately made a tracheotomy. She was perfectly relieved, and breathed easily until her death from exhaustion twelve hours later. Dr. W. P. Northup in a review of this case ascribes the death to pneumonia. I did not suspect it at the time.

Case 2.—Oct. 17, 1886. Girl, aged 9 years. Intubation at 10 o'clock P.M. Relief for eighteen hours. The trachea then began rapidly to fill. Tracheotomy at 4 o'clock P.M.; complete relief. Death on the third day from extension of the membrane to the bronchi.

Case 3.—Detailed as *Case 2*, of the cases illustrative of the effects of very late intubation.

Case 4.—April 9, 1887. Boy aged 2½ years. Intubation at 9 o'clock P.M. Relief for three days when the membrane began to extend and to fill up the trachea. Tracheotomy on the fourth day. Complete relief, but death three days later from bronchial croup.

Case 5.—December 29, 1887. Girl aged 5 years. Intubation at 5 o'clock P.M. Complete relief. The tube filled the next day when it was removed and cleaned and replaced. This gave relief for a short time only. Tracheotomy on the second day. This operation gave but little relief and the child died in a few hours.

These five cases very well show the superiority of tracheotomy over intubation in combating the condition which gives rise to the dyspnœa in croup. Tracheotomy not only will relieve all cases that intubation can, but it will do more. In four of the five cases intubation had failed to keep the respiratory tract free, and if left without further interference all undoubtedly would have died in a few hours. Tracheotomy gave them chances of life far beyond the power of intubation to do.

From the observation of these cases I should advise the performance of tracheotomy when intubation has failed to give relief, if the secondary dyspnœa supervenes within a few hours. The first deposit of pseudo-membrane in the trachea is generally thin and pus-like, and but loosely attached to the mucous membrane. It is a *croupous* membrane in the *anatomical* sense. It is easily expelled after tracheotomy, and this operation certainly offers some chance of recovery.

If the secondary dyspnœa be delayed for two or three days, it is then usually due to the deposits in, as well as upon, the mucous membrane. The pseudo-membrane is thick, tough and firmly adherent to the mucous membrane—it is *anatomical* diphtheria. With such a membrane filling the trachea and extending into the bronchi further operative interference is of no avail.

The surgical treatment of croup is often made useless by injudicious medical treatment before the operation. Medical treatment, is to a certain extent at least useful, and and it would not be wise to entirely neglect it, but so few cases of pseudo-membranous laryngitis recover under it alone, that it is best to consider it of secondary importance. Upon operative treatment only should any reliance be placed, and the medical therapeutic of the disease should be selected with especial reference to it. If recovery takes place without operation, it should be looked upon rather as a fortunate accident, than an anticipated result. The most frequent error made, is in the too persistent use of emetics. They are often given until profound exhaustion is produced, and when the obtunded reflex centers refuse longer to act, they are stored up in the stomach, and when reaction takes place, produce violent gastro-intestinal irritation. Think of such a preparation for a capital operation upon the subject of a serious acute disease! With such preparatory treatment

what would be the result of other grave operations? Of late years it has been fashionable in some localities to administer large doses of calomel to croup patients—one or two drachms or more in twenty-four hours. These large doses have been given with the idea of promptly producing the constitutional effects of mercury. If this condition has a favorable influence upon the course of the disease, and the testimony of many able physicians and my own experience make it probable, it would appear more reasonable and scientific to administer a readily soluble salt of mercury, or frequent small doses of calomel, so that the physician can control the amount of the drug taken into the circulation, something that cannot be done when large doses of calomel are given. I have heard it asserted that this enormous dosage never produces salivation or other serious results. My experience has been just the opposite. Of four cases seen in consultation, and which had been treated in this manner, one died before time was given for the mercury to produce any effects; two died after tracheotomy had been performed, one partially and the other wholly, I believe, from the effect of the distressing salivation and the violent enteric catarrh; and one was suffering so greatly from the toxic effects of the drug that I refused to perform tracheotomy.

Apparently trivial details of operation and after-treatment so greatly affect prognosis, that to be successful in tracheotomy the physician should be a perfect master of them. During and after tracheotomy death threatens from every quarter, and the surgeon must make the best of the few conditions over which he has control. It is a great advantage to be able to select the time for operation and the best results are obtained from operations not too long delayed. Still, while a child is living it is never too late to operate. A skillful operator will open the trachea by deliberate dissection in six or seven minutes and when time presses in much less time, so that, so long as respiratory efforts are being made it will not be too late. The grave condition late in croup is generally the effect of asphyxia alone, and with the admission of air into the lungs, resuscitation usually is rapid.

It would unduly prolong this paper to give the details of tracheotomy; a few general remarks, however, may not be out of place.

The operation should be performed with the greatest delicacy and with all the deliberation the time will permit. The cut to the trachea should be made with as little tearing and mutilation of the tissues as possible. I find it can be made most carefully and quickly by avoiding almost entirely the use of a director or other instrument except the scalpel. With the child's neck over a small round pillow the tissues are so stretched that as the successive passes of the knife divide them, the edges of the wound automatically retract. In the operation above the isthmus, the only tissues that cause trouble and delay are the veins, and the use of retractors or a director, or even the retraction of the edges of the wound with the fingers, empty them of blood and make them invisible. With successive gentle passes of the knife point, avoiding the veins, distended and in plain sight, as they present, the connective tissue lying next to the trachea can be quickly reached. Difficulty may be experienced here, as in this tissue lie imbedded dilated branches of the superior thyroid vein, branches of the superior thyroid artery and sometimes the crico-thyroid. The cutting through this dangerous layer of tissues must be very carefully done and it is often well to separate it partly by tearing. The method of Boze is very safe.

In opening the trachea I prefer to make a short cut in it, and before withdrawing the knife gently to introduce a slender retractor with a long beak, then to withdraw the knife, introduce another retractor, and to enlarge the incision either way with a probe-pointed knife. With the edges of the tracheal incision well separated by the retractors, respiration can go on while the operator is cleaning the trachea of mucus and membrane. There is usually no occasion for haste, and the canula can be carefully introduced when the trachea is clear. Many operators make the introduction of the tube the supreme moment of the operation, plunging it into the tracheal incision as soon as it is made, using the finger or some instrument as a guide. To this bungling method is due the inexcusable accidents of lodging the canula in the connective tissue alongside the trachea, and tearing the trachea, or its mucous membrane.

The canula should be so prepared as to cause the least irritation to the external wound, and the tracheal mucous membrane. This can be very well done by placing under the shoulder of the tube an apron of mackintosh cloth or oiled silk, and under that two or three layers of surgeon's lint or antiseptic gauze. This pad serves as a dressing to the wound, can be made fairly antiseptic, and protects it from the irritating contact of the metallic shoulder, and the secretion expelled from the tube. Another very important function it performs is to permit the easy play of the tube within the trachea during respiration, coughing and other efforts. The depth of the trachea from the skin varies much in different individuals, and as a result of inflammatory exudation. Variations in the thickness of this pad will give different lengths to the tube.

Pilcher, Cohen, Gay and other American writers have given to the profession such excellent articles upon the after-treatment of tracheotomy, that very little in addition can be said. The general indications to be filled, however, and the means at the physician's command to fill them,

cannot be too often repeated, as, in attention to these details above all others, lies the secret of success. After the operation the diseased mucous membrane of the trachea pours fourth a copious exudation of thick, tenacious mucus or pseudo-membrane. The inspired air quickly dries it and forms hard sticky masses that obstruct the newly made respiratory tract. These secretions must be kept fluid and the way clear for their expulsion. This is the chief indication in the after-treatment of tracheotomy. To accomplish it the essentials are:

To keep the apartment at a temperature of about 80° F., and the atmosphere loaded with moisture.

To administer remedies that are known to stimulate the tracheal and the bronchial mucous glands.

To keep over the tube a thick cravat of several folds of gauze or a piece of wet sponge, to further moisten and warm the in-going air.

To frequently change and clean the inner canula.

To use occasionally, in all cases, the steam-atomizer for twenty or thirty minutes at a time, and when the membrane forms fast and dries rapidly, to pour into the opening of the canula from one-half to three-fourths of the time a heavy steam spray of a mildly alkaline or solvent solution with the atomizer placed but a few inches from the canula.

Lastly, when, regardless of persistence in these measures, the trachea becomes obstructed, to remove the canula from the wound, and by instillation with a few drops of water, or with forceps, a feather or other instrument to search for and remove the obstructing mass, as would be necessary with any other foreign body.

Mr. Chairman, in bringing this very imperfect paper to a close, I wish to make a plea for more frequent operative interference in pseudo-membranous laryngitis. Whether it be intubation or tracheotomy that the physician may select is not a matter of importance so long as one is done. Without operative interference these children die, while with it a magnificent percentage recover. Every physician when confronted by a patient in the condition demanding tracheotomy, should have before his mind these eloquent words of Dr. Pilcher: "How long am I justified in deferring the application of a remedy which at once puts an end to grave sources of danger now present to my patient? The most approved methods of treatment have failed to arrest the course of the disease. There is a steady progression in its gravity. A possibility exists, however, that even at the last moment a favorable turn may take place and recovery follow. In all probability, nevertheless, it will steadily advance to a fatal termination. Shall I now give him the benefit of tracheotomy, with its unquestioned advantages, or shall I wait yet longer? Each hour of waiting now will lessen rapidly the hopes which even tracheotomy affords. What is my duty to my patient? What other answer can there be than that *justice to my patient, justice to myself, fidelity to the profession I represent, all unite in demanding that* NOW, *early, before the development of conditions which will make any interference but a forlorn hope, tracheotomy should be done.*"

544 Jefferson Ave.

DOUBLE UTERUS AND VAGINA.

Read in the Section on Obstetrics at the Thirty-ninth Annual Meeting of the American Medical Association, Cincinnati, Ohio, May, 1888.

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Under the general title of double uterus and vagina I wish to consider the congenital malformations of the uterus described and classed by authors as uterus bipartitus, uterus unicornis, uterus bicornis, and uterus bilocularis, when one of these malformations is associated with a double vagina. My observation was directed to this subject something over a year ago, by having brought under my treatment a case of uterus bilocularis, associated with a double vagina. It was a case specifically described by Kussmaul under the name of uterus septus, vagina septa. Brief notes of my case are as follows:

Mrs. A., aged 37 years, married some months and never pregnant. Came to my office with her husband to consult me on account of something abnormal they had found about the genital organs. The following facts were elicited, viz.: Menstruation had begun when the patient was quite young, but had always been irregular and generally scanty. During the last two years they had been at times painful. Since marriage pregnancy had not occurred, but coition had not been painful and there were no symptoms pointing to serious uterine trouble.

Upon ocular inspection and digital examination the external genital organs were found normal and well developed. Upon separating the labia and looking into the *ostium vaginæ* nothing abnormal would have been noticed upon casual examination. Upon close examination two vaginæ were found, separated by a moderately thick septum extending from a groove between two cervices to the introitus vagina. The right vagina was considerably larger than the left, and was undoubtedly the one used in coition. The finger entered this one readily, while the left one needed to be searched for. A cervix was found in each vagina and were normal in all respects except the left one was smaller, and both were shorter than normal. The probe entered the right uterine cavity 2 inches, and the left one 1½ inches. The points of the probe could not be made to meet and their

handles diverged slightly. No communication between the uterine cavities or vaginal pouches could be made out. By conjoined manipulation the uterus was found to be of normal size, except that the transverse of the body was greater, and there was a slight depression at the fundus, marking the division of the body of the uterus. That portion lying to the left of the depression was one-third smaller than that upon the right side.

About one month later the husband came to my office reporting that his wife had not had her menses, and that they thought her pregnant. Three months later she was seen by the writer and pregnancy found to exist. The labiæ and vaginæ had grown considerably, and were now of that livid hue sometimes indicative of pregnancy. The cervices had enlarged and softened and the right side of the uterus had enlarged, so that it, with its contents, was as large as a normal pregnant uterus at the fourth month. The left side of the uterus had not correspondingly developed, it being apparently flattened out and lying like a molehill upon the left side of the impregnated uterus.

From this time on I saw the patient frequently, and became thoroughly convinced she would be able to effect delivery without operative interference. In due season labor came on in a normal manner. When I was called it had advanced well into the first stage. The right os was dilated to the size of a silver dollar, while the left one was nearly as large. The bag of waters protruded from the right os, and the fœtal head was felt just within it. In another hour the right os was largely dilated with a large bag of water protruding from it. The left os was also large and I could determine the position of the fœtal head through it as well as through its neighbor. It was found during this examination that there was a communication between the two sides half an inch above the internal os. The finger could be passed into one os through this opening and out the other os. The uterine septum had been torn and it was thought strongly probable that the head would tear the vaginal septum before it in its descent. This actually occurred. The second stage of labor was of four hours' duration and the pains were only moderately severe. At the vaginal outlet a band of the septum remained and was stretched antero-posteriorly over the centre of the fœtal head and for a brief time retarded labor. By pushing the head back in the absence of pain this band could be pushed toward the left side, but not far enough to allow the passage of the head. Finally, after three or four pains, the band suddenly gave way, and the head was as suddenly born. The remainder of the child quickly followed, as also did the placenta. There was but little hæmorrhage or shock and the patient was at the end of labor in an excellent general condition. Strict antiseptic precautions were observed and at the end of two weeks the patient had made a complete recovery.

When this case came under the writer's observation he began looking up the literature of the subject of double vagina and uterus, and found that contained in one language very meagre, and hardly satisfactory to one desiring to obtain a comprehensive knowledge of the subject. Todd's "Cyclopædia of Anatomy and Physiology" gives a brief but excellent anatomical description of congenital malformations of the uterus, but has little to say regarding double vagina. In the following works much valuable information may be found, viz.: Lusk's "Midwifery," Hart and Barbour's "Manual of Gynæcology," Fritsch's "Diseases of Women," Barnes' "Diseases of Women," and in Turner's articles in the *Edinburgh Medical Journal*, Feb., 1865, and May, 1866. The writer of this article has, by the invaluable aid of a physician having access to the Library of the Surgeon-General's office, collated and tabulated the histories of 97 cases of double uterus and vagina. Brief references to some of the facts thereby obtained may be of some interest. Before proceeding to this part of our subject a short anatomical description of the various forms of the malformations will not be inappropriate. Todd[1] divides congenital malformations of the uterus into four groups.

1st. Uterus Bipartitus.—In this group the ducts of Müller are imperfectly developed, or undeveloped, and the result is a more or less complete absence of the uterus. The examples of complete absence of the uterus reported are believed by Todd to be cases in which the rudiments exist, sometimes with a fold of peritoneum lying behind the bladder. The concomitants of this condition are usually rudimentary ovaries and Fallopian tubes, a short vaginal cul-de-sac, a complete absence of the vagina, or in rare cases a complete vaginal pouch. In rare instances the ovaries will be found normal, and in still rarer instances there will be a pervious os communicating with the vagina, and the uterus, Fallopian tubes and ovaries sufficiently well developed to permit of conception and delivery. The presence of normal ovaries concomitant to rudimentary condition of the uterus may be understood when it is remembered that the "ovary is formed out of a separate portion of blastema of that from which the Wolffian bodies and excretive duct of the genitive apparatus are developed," so that the failure of growth of one does not necessarily involve a corresponding defect in the other. In this class is the greatest deviation from the normal development of the uterus.

2d. Uterus Unicornis, or the single-horned uterus, is the next in the order of the greatest departure from the normal in development. Here one uterine cornu retains the imperfect condition, while the other undergoes development, so that

[1] Todd's Cyclopædia of Anatomy and Physiology, vol. v, p. 678.

the uterus will consist of a developed and an undeveloped half, or there may be an entire absence of one cornu. Where a rudimentary horn is found this is then solid, or hollow, closely connected to its fellow or only joined to it by a pedicle, which may be either pervious or impervious. The ovary upon the side of the rudimentary horn may be absent, undeveloped, or normal. The Fallopian tube may be pervious or impervious. When the ovary is absent or imperfectly developed it is not unusual to find an absence of the kidney upon the corresponding side. In this group the vagina may be double or single. If it be double one side is likely to be rudimentary or much smaller than its fellow.

3d. Uterus Bicornis, or Two-horned Uterus.—This form of malformation is more frequently met with than either of the former ones. Here the uterine cornua generally develop symmetrically, yet with an imperfect junction of their lateral borders. There is in this class no evidence of plurality or duplicity of the uterus. The condition is due to defective development or failure to fuse of the lower extremities of the ducts of Müller, and a consequent conjunction of the two halves, as occurs in a normally developed organ. In some instances in this group there is no fusion whatever and there would appear to be two separate organs, and yet examination shows in every instance but a single ovary tube and round ligament for each horn, and thus is demonstrated the fact that the malformation is due to defective development, rather than to a duplicity of organs.

The uterus duplex bicornis and uterus dedilphy's are subdivisions of this group, and they differ from each other chiefly in the degree of the separation of the cornua. In the latter the separation is complete, so that each cornu is capable of movement independently of the other. In this group, as a concomitant, the vagina may be single or double, as also may be the cervix and os. A rudimentary condition of one horn may exist.

4th. Uterus Bilocularis.—The slightest deviation from the normal will be found in this group. Here the uterine cornua are partially fused and may be equally or unequally developed. Usually a groove or fissure will mark the separation of the cornua, while the cavity is more or less completely separated into two parts by a septum. The vagina is also frequently divided into two parts by a septum. When this occurs there may be a cervix in each vaginal tube, or the septum may divide a single os into two parts. The writer's case was of this group, and in it the septum extended from the osteum vagina to the fundus of the uterus. Of the 97 cases the histories of which the writer has collected there were found examples of each one of the groups described. They were as follows:

Of uterus bipartitus	2 cases.
" unicornis	3 "
Of uterus bicornis	52 cases.
" bilocularis	23 "
Uterus single, os, neck and vagina double	2 "
Unclassified, except as double	15 "

Of these cases the vagina was double, *i.e.*, divided into two parts, in 77 instances; single in 5; absent in 1; and not stated, but probably double, in 16; and there was atresia of one vagina in 6 cases. Some interesting and instructive facts relative to pregnancy were obtained. Of the 97 women having the malformation, 47 were married, and those who bore children whose marriages were questioned were 3, thus making in all 50 possible mothers. Of these, 42 women were pregnant 76 times. There were 42 natural deliveries, and 13 difficult labors. The means of relief in the difficult labors were forceps in 7; turned in 1; septum of the vagina cut in 4; and in 1 there was rupture of the uterus. The number of deaths at, or as a result of labor, was 4; 1 of convulsions; 1 of rupture of the uterus; 1 cause not stated; and 1 of puerperal fever three weeks after delivery. Fourteen women miscarried 18 times.

It is interesting to know which one of the varieties of malformation we have described is most liable to become pregnant and what is the result in each case. Is the one-horned uterus less liable to become pregnant than the uterus separatus, and if pregnant is it more liable to result in miscarriage, or is labor more liable to be difficult or disastrous? In our list no instance of a pregnant uterus bipartitus is found. Pregnancy occurred in uterus unicornis in 3 women; in uterus bicornis in 21 women; in 12 women having uterus bilocularis; in 4 in which the uterus was single, but vagina double; and in 2 of unclassified form. Of the cases of artificial delivery 6 occurred in uterus bicornis; 2 in uterus bilocularis; and 1 unclassified form.

These facts are what we would be led to expect when we remember the peculiarities of each class. The one-horned uterus is equally surrounded by muscular tissue, and will nearly or quite right its position in the pelvis before the end of the period of gestation. In uterus bicornis the deficiency in muscular tissue upon the inner aspect of the organ, or inability to rightly employ that tissue, either or both tend to make labor more difficult or protracted. There are two factors operative in removing the axis of the plane of the uterus from the axis of the plane of the vagina, viz.: The commissure (Todd) frequently placed between the separated horns of the uterus, the position and thickness of which determining the angle at which the diverging horns will meet in the grooved uterus, the action of the round ligament which being attached to one horn only of the uterus tends to keep it well outward in the process of development.

But what influence do the different forms of malformation have upon the ability of the preg-

nant woman to carry the fœtus to full term? Our data is not sufficient to enable us to settle this question beyond controversy, yet the facts we find are quite suggestive.

Of the uterus duplex bicornis there were 6 pregnancies and 1 miscarriage; of the uterus bicornis, 5 pregnancies and 1 miscarriage; of uterus didelphys, 10 pregnancies and 5 miscarriages; of uterus bilocularis, 12 pregnancies and 6 miscarriages; of uterus unicornis, 3 pregnancies and no miscarriages. The large percentage of miscarriages in uterus bilocularis is due quite largely to the lodgment of the ovum in the decidua vera in the superior posterior portion of the uterine cavity near enough the septum so that as the placenta develops it spreads over upon the septum and hæmorrhage, or failure of growth frequently occurs, and miscarriage follows. The reason of the frequent abortions or miscarriages in uterus didelphys will, I believe, be found (a) in the unfavorable position the impregnated uterus gradually assumes as the period advances, which position interferes with its circulation, and (b) in the sympathetic excitement induced by the menstruation of its fellow.

What are the effects of the abnormalities under discussion upon menstruation? Menstruation is a function requiring for its normal performance a complex system of organs which must be perfectly formed, in perfect working order, and each bearing its proper relations to all others. Here we have abnormalities affecting a part or the whole of the organs of the menstrual system, and the abnormalities are those of development. The organs affected are chiefly the uterus and vagina, for it is not common to find errors in the formation of the ovaries in cases of double uterus and vagina even in the highest types of the malformation, for reasons already stated. To be more specific, there must be, in order to perfect menstruation, a normal ovary, a pervious tube, normal uterine mucosa, and a pervious os and vaginal tube. These are not always present and when they are not menstrual disturbances will arise.

The most disastrous of these disturbances we have found in our studies are hæmatomatra; the menstrual fluid being retained in the uterus in consequence of an impervious os, and hæmatocolpus resulting from atresia of one vagina. The former of these most frequently occurs in cases of uterus bicornis, but it is sometimes met with in a rudimentary horn which contains normal uterine mucosa and no communcation between the developed and undeveloped horn. We found records of many cases in which menstruation was irregular, scanty, or painful, and some striking anomalies, some few of which may be mentioned. In one instance the patient gave birth to twins at six months from one uterus, menstruated regularly from it three times and then gave birth to a perfectly formed child from the other uterus. In another instance menstruation occurred from both uteri and both became pregnant. Abortion occurred, and it was then ascertained that one uterus had been impregnated three months while the other only one month. It was also learned that both uteri may menstruate at the same time, or that they may alternate in the performance of the function. These facts all tend to emphasize the importance of the place the uterus occupies in the system of organs involved in the performance of the function of menstruation. If with a single uterus and two ovaries menstruation occurs normally every four weeks, and if with a double uterus, each half having a single ovary, the menstrual flow occurs from each every four weeks it would seem quite conclusive evidence that the uterus, and not the ovary, is the most important part of the menstrual system and, it would too, the writer thinks, tend to prove the cycicle nature of this functional manifestation, with the uterus as the center of the system.

What effect does the duplex condition of the vagina have upon the mature woman in respect to menstruation, married life, pregnancy, and delivery? Upon these points our text-books have little to say, but the writer has found in his investigations this is one of the most important parts of his study. Atresia of one or both vaginæ will lead to the formation of a hæmotocolpus. The suffering attending this pathological condition is great, while the dangers to life incident to operative procedures for its cure are also great. The subjects of duplex vagina are usually ignorant of its existence until after marriage, when they find coition painful or impossible. Occasionally a physician will be confronted during the progress of a difficult labor by the presence in the vagina of a firm septum, or he will recognize the existence of a double vagina in which there is a thick, firm, fleshy septum. In the list of cases we have studied (97 in all) we have found the septum described as complete, *i. e.*, extending from the osteum vagina to the cervix uteri, in 72 instances. The following facts appear respecting the septum, viz.: The septum delayed labor in 2 cases, was cut away during labor in 3 cases, torn away in labor in 5, divided before labor in 1, divided for painful coition in 6, for relief of diseased conditions in 4, sloughed away after delivery in 1, and was divided for atresia of the vagina in 6 cases. In one of the patients having vaginal atresia of one side the fœtus passed into the occluded vagina and had to be removed by incision.

It will be seen by this statement that the septum was an important factor in labor in 13 patients, or in more than one-third the women who were confined, as in only 36 of the child-bearing women was there a vaginal septum. It is pertinent to inquire what shall be our mode of procedure respecting this septum? If seen before pregnancy in the married woman it should be, if thick, firm

and unyielding, incised, excised, or severed by the galvano cautery. As a rule, the writer believes, it will be the best surgery to excise the septum and suture the edges of the mucous membrane, in order to avoid as nearly as possible resulting cicatricial tissue in the vagina. If an incision alone is used it should be crucial, in order that the incised surfaces may not come in contact and adhere. Should the patient be not seen until after pregnancy has occurred the operative procedure is best delayed until the fourth or fifth month.

There is nothing to contraindicate the severing of the septum during labor if it be found materially retarding labor. It is better to cut the septum than to allow it to be torn away as it was in the writer's case. Fortunately his inactivity did not entail upon his patient disaster or serious results, but he would not again hazard the risk of such an occurrence. The best operative means for the relief of hæmotocolpus has not yet been decided upon. Emmet boldly advocates free incision, immediate evacuation of the retained fluid and antiseptic irrigation of the cavity. The weight of authority seems to be against this method and in favor of puncturing the tumor and slowly draining off the retained fluid. Of the 3 cases in our list all were punctured; one died, one recovered, and in one the result is not stated, though it probably recovered. Similar results are shown in the three cases of hæmatomatra in the list. The writer has in his possession the histories of 20 cases of hæmatomatra treated by various methods and cannot forebear anticipating his paper by stating that by far the highest rate of recoveries is found in those instances in which a free incision was made and free drainage and irrigation employed.

Our conclusions are

1. Congenital malformations of the uterus and vagina are of more frequent occurrence than the experience of one man would lead him to suppose.

2. Of the forms of malformation of the uterus associated with double vagina the uterus bicornis is the most frequent, 51.5 per cent. belonging to this class.

3. Except in uterus bipartitus the fecundity of the woman having the malformation is not materially diminished,

4. The ratio of difficult labors is greater than in those having normal uteri. 24.1 per cent. were difficult labors; 28.5 per cent. being of uterus bicornis, and 16.66 per cent. being of uterus bilocularis.

5. The forms of malformation in which abortion or miscarriage is most liable are uterus didelphys and uterus bilocularis. In these 50 per cent. of the cases so resulted.

6. Both sides of the uterus may be pregnant at the same time and the fœtus in each in the same stage or different stages of development.

7. Disordered menstruation is of frequent occurrence. Atresia of one vagina will be found in about 8 per cent. of the cases. Stenosis of the cervix uteri is sometimes present.

8. Menstruation will take place if there be even a small amount of uterine mucosa and a normal ovary, and if there be not a free exit of the menstrual fluid hæmatomatra will result.

9. Menstruation may occur simultaneously from both uteri or they may alternate in the performance of this function. In the latter case it may appear every two weeks, and from alternate sides.

10. The two preceding conclusions show the important part the uterus plays in the performance of this function of female life.

SOME OBSERVATIONS, AFTER 1,000 OPERATIONS FOR HÆMORRHOIDS.

Read in the Section on Surgery, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

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Having for a number of years given special attention to diseases of the rectum, I have thought that this paper could be made more or less interesting by recording my individual experience in the operations looking to the relief of hæmorrhoids. I have based my conclusions from operations done upon patients taken indiscriminately from hospital, dispensary, and private practice. Believing that an individual experience is worth much in forming an estimate, I give mine for what it is worth.

Internal Hæmorrhoids.—This I believe to be the most common of all rectal affections, though Mr. Allingham believes fistula in ano to be. In making this estimate I rule out the diagnoses made by patients, who usually pronounce any and all affections of the rectum or anus to be piles.

Causes.—With deference to our French *confrères*, I am satisfied that constipation is the chiefest among the causes of hæmorrhoids. Nor can I subscribe to the belief that through the dissections made by Verneuil we find sufficient evidence in the peculiar distribution of the veins, and the course they take in the coats of the rectum, to disprove the theory that constipation, sedentary occupations, drastic purgatives, prolonged use of enemata, etc., can institute true hæmorrhoids. His idea that the superior hæmorrhoidal veins pass through "veritables boutonniéres musculaires," and that these muscular button-holes have the power of contracting and causing such stasis and congestion in the superior hæmorrhoidal veins as to cause the "primum mobile" in the formation of internal piles, I do not believe. Upon this theory was dilatation of the two sphincter muscles suggested as a cure for internal hæmor-

rhoids. Whatever might have been its success in France, I am sure it has failed of its object in America. This failure I attribute to the unscientific basis upon which it was practiced. In a word, then, I believe hæmorrhoids to be veritable tumors, in the formation of which the arteries as well as the veins play a part. The mucous membrane of the rectum being movable, is everted at stool. Anything that impedes the return of blood will congest the part. This, sufficiently kept up, ends in the plastic deposit of inflammation constituting the material for the formation of piles. I quite agree with Verneuil, that the superior hæmorrhoidal veins are connected with the portal system, and in the main form internal hæmorrhoids, and that external piles are formed from the external and middle hæmorrhoidal which are not connected with the portal venous system, and hence the two venous systems, portal and general, are practically distinct at this point. This proposition is admitted, and yet we cannot admit the absolute separation of the portal and general venous systems. I have been thus explicit on this point from the fact that confusion has arisen over it.

Sex.—In my experience men are the oftenest affected with piles. This I account for on the basis that the portal circulation is in the male oftenest interfered with. This will outweigh the fact that childbearing and displacements of the uterus are pregnant causes of piles in females.

Age.—A number of authors cite cases of piles in infants. I have never witnessed the affection in children under 10 years of age. Old age is mentioned as most favorable to the disease. This has not been my observation. Old people frequently mention that during adult life they were so affected, but as the years grew apace, the piles disappeared. It is eminently a disease of middle life.

Classification.—The usual classification of piles is mystifying, to say the least. No anatomical difference can be drawn between the so-called venous and the arterial pile, and the commonly designated "capillary" pile frequently uncovers an artery of good calibre. The terms external and internal are quite sufficient for all practical purposes as applied to piles, for, as Mr. Erichsen says, "all internal piles should be tied, and all external piles should be cut off."

Dangers.—The only real danger from internal piles is hæmorrhage, and this can scarcely apply to any save the small incipient pile. The friction to which larger tumors are subjected causes such thickening of the mucous coat that bleeding, as a rule, is impossible. Sometimes large hæmorrhoids prolapse and slough, hence require surgical interference, but this could only occur from an indiscretion.

Operations. Injections of Hæmorrhoids.—For a number of years the injecting of hæmorrhoids with carbolic acid seemed to be a favorite plan with many in the profession. Being a discovery of the itinerants, it soon found favor with the laity, more because of its secrecy than from any merit. After the remedy was exposed, the profession was able to give it a fair trial. Many, for a while, were inclined to look upon it with much favor, for the reason especially that it was easily practiced. After a few reported accidents, thoughtful men began the real study of the subject, the *modus operandi* of cure. After a sufficient length of time had elapsed for investigation, I took occasion to record my objections in an article read before the Kentucky Medical Society in 1878. In that paper the position was taken that the injecting of piles with carbolic acid was a dangerous procedure; that by the plan much inflammation was excited; the pain in the majority of cases very great and prolonged; that dangerous hæmorrhage was to be feared; that sloughing was the rule, hence ulceration, stricture, etc., might follow; that death might occur from hæmorrhage, embolism, or septic trouble; and that in no case could a radical cure be pronounced. After an elapse of ten years we find these predictions verified. Dr. Andrews, in his late work on "Diseases of the Rectum," p. 24, says: "The following accidents have been reported to us out of about 3,304 cases: Deaths, 13; embolism of liver, 8; sudden and dangerous prostration, 1; abscess of liver, 1; dangerous hæmorrhage, 10; permanent impotence, 1; stricture, 2; violent pain, 83; carbolic acid poisoning, 1; severe inflammation, 10; sloughing and other accidents, 35." Of course this was an indiscriminate collection and the half was not told. The quacks would not confess their bad results, hence most of this table was from accidents and results so plain that the profession ascertained them. Allingham reports thousands of cases by ligature without an untoward symptom and no death. Others are of the same good report. Kelsey, of New York, who a few years ago was inclined to advocate the injection plan, discountenances it now. Ball, of Dublin, who has just issued an admirable work on diseases of the rectum, only says in mention of it that the plan has been tried in America, but with poor success. The writer begs to say that what was said by him in 1878 he reaffirms in 1888. The remedy came in unawares, has been weighed in scientific scales and been found wanting. No authority to-day advocates its use.

Dilatation.—As has been suggested, after the views of Verneuil were promulgated, it was advised that dilatation of the sphincters be practiced for the cure of all internal piles. Such men as Gosselin, Dubrueil, Durch and others endorsed these views. The plan has been tried extensively in France and, the reports would indicate, with a moderate degree of success. In America it has proven a failure. The theory was wrong, hence the success bad. In the

early formation of piles, I have no doubt but that good could be accomplished by the plan, but after a pile is well formed I am sure it could not be cured by any such procedure.

Excision.—It is a little surprising to hear Allingham say that he regards excision as one of our best operations for internal piles. I think that an author should consider the audience he is addressing; and surely this sentence could result in much harm. To the surgeon accustomed to handling the rectum, the danger might not appear so great, yet to the many that might try this operation it would be fraught with much danger. It certainly can never become a popular method. I have had the internes try it at my hospital clinics, and in each case great difficulty was experienced in controlling hæmorrhage.

The Clamp and Cautery.—This is generally known as Mr. Henry Smith's operation. It finds great favor in the hands of Dr. Kelsey, of New York. It occurs to me that after a surgeon has had a certain amount of success with any given operation in surgery, he is loth to give it up. This certainly must apply to Mr. Smith, who is a great advocate of the clamp and cautery for the cure of internal piles. That this operation, compared to others, is cumbersome, cannot be gainsaid. That it is attended with much danger must be admitted. Any clamp is but a temporary safeguard, and if a break is made in the seared edges of the wound, bleeding must of necessity take place, and we all recognize the great danger of hæmorrhage into the rectum after an operation has been completed. The method has found but little favor in this country, and I am satisfied that, by comparison with the ligature, it will fall into disuse.

The Ligature.—Certainly, of all known methods, the ligature stands preëminent as an operation for internal hæmorrhoids. It has stood the test of years in the hands of the most eminent surgeons. To-day it is the most popular method. Easy of execution, free of danger, and rapid in its results, it can but command the attention of all who are interested in this operation. To the principle involved in the use of the ligature all are agreed, but the method of application is to a certain degree disputed. The method, as practiced by Mr. Allingham, is to dissect the hæmorrhoidal tumor away from its attachments, and then to surround the remainder, at its base, with a tight silk ligature. For the first few years in special practice I did the operation after this plan. I then modified it for the following reasons: 1. It was misleading to teach students after this fashion, because there was much danger in their dividing the artery which supplied the tumor. 2. There was more cutting than is necessary.

The modification consisted in running a delicate knife around the base of the pile, simply going through the integument. This saves any deep cut and at the same time removes all superfluous skin, or external piles. Indeed, there are many cases of internal hæmorrhoids which require no cutting at all. This point is not sufficiently brought out in the books. I allude to the large internal piles which have no complication as mentioned here, viz.: superfluous flesh, or external piles. These require only to be brought in sight, ligated and returned into the bowel. Much stress is laid upon the degree of tightness that should be accorded the ligature; some saying apply it loosely, others advising it to be drawn tightly. I am sure that the tighter a ligature is drawn the quicker and more effectual will be the cure. A point is made in suggesting the kind of material to be used in the ligature. Many prefer silk. I am in the habit of using the stoutest linen thread, such as is used by saddlers or shoemakers. The twist of the silk, or other material, I am sure has nothing to do with it, as some seem to think it has. The kind of knot to be tied is spoken of, Mr. Allingham remarking that he ties the knot *three* times. Twice is quite sufficient, and the surgical knot has no advantages over the common hard knot. All internal piles existing should be ligated at the same sitting, and all returned into the rectum. The greatest care should be taken in cutting off the tumors after ligating. It is much best to leave the whole mass, rather than to have one ligature slip after returning the tumors into the bowel. The presence of the mass in the gut cannot result in any harm; the ligature is between it and the circulation. As a rule, then, it should not be cut off. A number who have written upon this subject say that the bowels should be confined for from five to seven days, and a light liquid diet enjoined. Certainly this is a mistake, for two reasons: 1. In this length of time the fæces will become hardened and impacted. 2. These patients generally require all the nourishment they can get. When following this advice I have had as much or more trouble result from impaction than from the original operation. My habit is to purge the patient the day of the operation, and to give an aperient on the second day after the operation, and each succeeding day thereafter until the patient is discharged. Consequently a full diet is prescribed if required. When operating under an anæsthetic I always divulse the sphincters, more especially if any cutting is done. This prevents the contracting of the muscles, hence obviates much pain when inflamed.

Anæsthetics.—It is often asked if the operation for internal hæmorrhoids can be done without the use of anæsthetics. If the sphincter must be divulsed because of the complication of fissure, ulceration, or what not; or if any cutting is to be done, then an anæsthetic is absolutely necessary. If internal hæmorrhoids exist without any such complication, and protrude well in response to the

bearing-down effort, then an anæsthetic is *not* necessary. It is often suggested that cocaine could be used with benefit in these operations. In the removal of external piles much benefit is derived from throwing the solution under the growth. In the operation for internal piles I have found it of little value.

Antiseptics. — Unfortunately, strict antisepsis cannot be practiced in these operations. Fortunately, it is not as necessary as when operating elsewhere. I am in the habit, however, in all these operations, of having strict surgical cleanliness as regards both the person and instruments. If any cutting is done the parts are dusted freely with iodoform, and the gauze of the same applied over the wound.

Results.—As the caption of this paper intimates, I have operated about one thousand times for hæmorrhoids by the ligature. I have never had to operate the second time upon the same patient for the affection. Have never had an unnatural contraction around the anus as the result of the operation, nor had ulceration or stricture to result. I have had in this time one case of tetanus, which I believe to have been superinduced by a debauch, the patient having been drunk for several days before the operation. The tumors protruded, strangulated and mortified, hence the operation. He recovered from the tetanus under the bromide treatment. Have had one case of secondary hæmorrhage occurring on the third day. The rectum was plugged and the bleeding stopped. Also one dangerous case of hæmorrhage which occurred one hour after operation was done, in consequence of the slipping of the ligature, the pile having been cut off. The patient was pulseless and cold when seen, but the artery was quickly secured and tied, and he made a good recovery. I have never had a single death result from the operation, and but few untoward symptoms.

INSANITY; SOME POINTS OF MEDICO-LEGAL INTEREST.

Read before the Section on Medical Jurisprudence at the Thirty-ninth Annual Meeting of the American Medical Association, at Cincinnati, May 9, 1888.

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The present status of Medical Jurisprudence is far from satisfactory, especially the position of the alienist physician in the courts of justice. His testimony often seems to be of little value. His opinion as to the nature of insanity and degrees of responsibility is often not admitted by the court. The medical jurisprudence of insanity will probably never be on an altogether satisfactory basis, until a due knowledge and appropriate feelings on the part of the community, lead to the enactment of proper measures in the management of all defective classes, of which the insane is but a part.

Discussions of the subject in this organization, though it has no legislative power, may be productive of good because of the influence of a large body of scientific men, especially physicians, in making public sentiment.

The position of an expert on insanity before a jury, is exceedingly unsatisfactory to himself, and reflects but little credit upon him before the community. Conflicting evidence, expert testimony, equally emphatic on opposite sides, or undecided and conflicting on both sides, is the public spectacle usually presented. The radical fault is not that the testimony is naturally *ex parte* testimony, nor that those called upon to testify have frequently no special knowledge of insanity, though these are grave difficulties, but that the expert, however competent, personally has not the opportunity of making such observations as may assure a positive diagnosis. The important truth is not generally appreciated that special attainments are often equally or more necessary in order to know how and what observations to make as to judge from those observations what is the true diagnosis. In obscure cases untrained observers could not be relied upon to find hidden symptoms, more than they would be to point out the diagnostic tests in obscure cases of internal disease. The hypothetical cases put by the advocate are often worse than useless; but the brief personal examination often permitted to the physician may be equally misleading. There is but one satisfactory mode of arriving at a safe diagnosis in criminal cases, where the mental status is very obscure or doubtful. The individual should be held for a length of time, the duration varying according to the necessities of the case, in an asylum or other suitable institution, where he could be under constant and competent observation. But in order that such observations be reliable, the physicians in charge should be men of special attainments, an end that might be gained through their selection by representative medical bodies, rather than through political influence.

Another great difficulty in the medical jurisprudence of insanity, is the question of the proper test of the responsibility of the insane. There is a marked difference in the views of psychiatrists and those of the judiciary, the latter largely reflecting the sentiments of the community at large. The dictum of the court, that the proper test is the ability to distinguish right and wrong, cannot be accepted by experienced psychiatrists. Many of the insane have clear ideas on most subjects, and know full well what the world deems right and wrong, but, nevertheless, because they are dominated by delusions, or under the influence of powerful impulses, or merely on account of their perverted views and

perverted lives, should be judged differently from those of sound mind and dealt with more leniently. This view of the psychiatrist would save the family the odium of crime, but it especially arises from consideration for the insane subject himself. Compassion for human affliction as much as the sense of justice, prompts us to hold an individual irresponsible for his acts. The community at large entertains such feelings toward those who are in such an obtunded or confused mental state as to be practically bereft of intelligence. The psychiatrist, with his more intimate knowledge of insanity and active sympathy arising therefrom, entertains similar feelings towards all those whom mental disease has robbed of the ordinary modes of feeling, thinking, and acting, or who have not, in ordinary parlance, free will. I believe that most psychiatrists would agree that the legal test of responsibility should be the answer to the question, is the subject sane or insane. Such a test would be more readily acceptable if, at the same time that it settled the question of the legal responsibility of the individual, it did not therewith virtually dismiss him from further control, as is practically the case at present. On the contrary, such an insane subject should be completely at the disposal of the court. Matters of discipline, as well as the protection of society demand this. The knowledge of immunity may foster crime among the insane as well as those of a sound mind, while due punishment tends to restrain it. But a special aim must be to protect society from the acts of such irresponsible persons. The ill will with which the community views condoning the acts of the criminal insane, is doubtless partly due to the fear that society may suffer again at the hands of the same individuals, and too often the verdict "insane" virtually sets such people free in society. I could mention an instance of this kind in which I was unfortunately the means of having the prisoner pronounced insane. I say unfortunately, because, from prudential considerations, it would have been much better that the individual should be in the penitentiary than allowed full freedom. Such difficulties could be avoided and proper measures in each case be instituted if, when a verdict of insanity were rendered, the disposal of the case would be left to the discretion of the court. The latter, with the assistance of proper medical counsel, should then order the patient to be retained in an asylum temporarily or permanently, or even inflict degrees of punishment, according to the nature and circumstances of the case.

Questions of insanity in court, indeed, the whole subject of the disposal of the insane, would become a much simpler matter if proper views were held, and proper measures taken, as to the treatment of all defective classes. A large part of the defective class is composed of criminals, at least a large part of the crime class is naturally defective. Their history shows this. It is only in recent years that the mental status of criminals has been made the subject of special study, and more philosophical views entertained as to the nature of crime. In many instances they are found to be possessed of impaired nervous systems and abnormal mental traits. The anatomical investigations of this subject are yet in their infancy. The view that there is a certain type of criminal brain must be looked on as chimerical. But various anatomical defects, or abnormal configurations of the skull have not infrequently been found, conditions which seem to ally such brains with those of degenerative forms of insanity, especially paranoia. Of more value are the clinical studies of the crime class. A valuable contribution to this subject has recently been made by Dr. Robinson,[1] physician to the Eastern State Penitentiary of Pennsylvania. His observations are to the effect that a large percentage of such individuals belongs to families of criminals, in which, at the same time, insanity or other nervous diseases are found, and that the criminals themselves present various abnormalities about the skull, are often the subjects of nervous diseases, and are already, or become, insane. In perpetrating criminal acts, they often are merely acting according to the depraved instincts of their nature rather than from necessity or greed. Such facts indicate the presence of abnormal nervous systems, or that the individuals belong to the defective classes of society. This must be accepted as true not of all, but of a large part of the crime class, and its general recognition is important, because it would tend to create the proper feelings toward this class and lead to their suitable treatment. The insane were formerly believed to be possessed of evil spirits, and subjected to scourging and other brutal treatment. When it became known that they were the subjects of disease, they began to be treated with the care and leniency due to human affliction, with the result of ameliorating their condition and assisting their restoration to health, thereby benefiting society at large, as well as adding incalculably to the well being of the afflicted. Similarly a correct idea of the crime class should lead to changes in their manner of treatment to the benefit of both themselves and society. The satisfaction of revengeful feelings, the idea of punishment, traces of a barbarous age, are still, to a large extent, elements in the treatment of crime. There should be but two considerations in its treatment, the protection of society, and the improvement of the criminal. The more nearly these ends are acomplished the more nearly perfect are the methods of treatment. But the present method of disposal of criminals does not tend to the accomplishment of these ends.

[1] Journal of Nervous and Mental Diseases, vol. xiv, page 281.

The criminal is for a short time secluded, and to that extent society is protected, but this period of seclusion is comparatively short, and when he is again free, he is usually more dangerous to society than before his punishment. His character is hardened. He is morally worse. Therefore, both the criminal and society are injured by his temporary punishment. A special injury from that punishment must not be over-looked. Many crimes are the result of passionate impulse or great temptation, while their perpetrators are not persons of criminal character. There is no reason why such individuals might not again become good citizens, but their future life is ruined, and they may even be driven to crime, on account of their subsequent reception by society. When their period of punishment is over the reputation of the prison clings to them, and deprives them of the common opportunities of making an honest and honorable livelihood.

What remedy can be suggested for the removal of the evil effects of the present treatment of crime? The method of treatment I have to propose, while it can only be vaguely outlined, points out, in my opinion, the direction in which changes should be made. First, I believe the guiding principle in treatment should be this, that punishment must be adjusted, not to the crime, but to the criminal, to the character of the individual, rather than to his deeds. As far as possible criminals should be divided into two classes. The first comprises those in whom the criminal act is an outgrowth, not of character, but of circumstances, the result of great temptations, blinding passion, etc. If such a distinction was clearly made, the members of this class would probably be received with such a degree of trust by society that their future need not be altogether wrecked. Probably they would carry with them only the reputation attached to their acts, and not an additional prison taint. As this class has no constitutional tendency to vice, there would not be the danger of their breeding the criminal class, nor any special future danger from themselves.

The second class includes those of criminal character. They are, and always will be, a danger to society. In addition to this, as they breed their own kind they are constantly adding to the crime class. From these ills, the danger from the criminals themselves, and the multiplication of the crime class, society should be, as far as possible, protected. Such criminals should be permanently secluded, but inasmuch as they belong to the naturally defective classes, and therefore are deserving of commiseration, their seclusion should be the least possibly painful, consistent with our great aims, protection of society, diminution of the crime class, and their own support. The best means to accomplish these ends must be learned from experience, especially from the wise observations of those conversant with penology. That many difficulties must arise in their application, the oft times difficulty of distinguishing the class to which the criminal belongs, the fact that the two classes merge into one another, and that a large number of criminals cannot be properly arrayed with either of them, need not in any way affect the great principles involved, or interfere with their practical application. Many adjustments would be necessary which would naturally grow out of experience.

A CASE OF NECROSIS OF THE MASTOID CELLS AND THE ENTIRE LABYRINTH OF THE OTHER SIDE, WITH PARALYSIS OF THE FACIAL NERVE,

FOLLOWED BY PARTIAL RECOVERY OF HEARING.

Read at the Congress of Otology, Brussels, September 10, 1888.

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In most of the cases of purulent disease of the ear extending from the middle ear to the brain, the upper bony wall (roof) of the tympanic cavity is the part usually affected, and by this route the disease is carried direct to the cerebrum or cerebellum; transmission may also occur through the blood-vessels and other sources. Another and more rare method of tissue conveyance of ear disease to the brain, is by way of the labyrinth through the inner wall of the tympanum and round window. The base of the stapes again, with its delicate ligaments, forms the only septum between the tympanum and vestibule, aud when suppuration takes place in the labyrinth, the disease advances through the cribriform floor of the internal auditory meatus to the auditory nerve, and thence to the base of the brain and medulla oblongata. In other cases, purulent matter is formed beneath the arachnoid, over the whole surface of the brain, or an abscess may develop between the arachnoid, the pia mater, or by pressure in the brain substance. In some rare cases the disease extends a considerable distance down the medulla spinalis.

When destruction of the bone has extended in the direction of the posterior cranial fossa, abscesses form in the cerebellum.

In the case we are about to relate the whole labyrinth became necrosed.

Mary T., æt. 9 years, a girl with dark eyes and hair, of delicate constitution, was admitted for otorrhœa as an outdoor patient of the Jefferson Medical College Hospital, July, 1882. The disease succeeded a severe attack of scarlet fever in the early part of the year. After recovery fistulous openings showed themselves over the upper part of the mastoid cells of the right side. These

openings were enlarged and a mass of dead bone removed under antiseptic treatment.[1]

The opening healed under careful treatment, nourishing diet, and alteratives of bark and iodide of iron. She absented herself without consultation, and nothing was heard of her until December, 1886, when she returned with a profuse left-sided otorrhœa, facial paralysis, and deafness. From the mother's account she had suffered from an attack of diphtheria, with inflammation of the middle ear with extension, evidently, into the labyrinth, also involving the facial nerve (within the Fallopian canal), with loss of sight, hearing and locomotion. This attack terminated, not in death, as is the usual result, but in an extensive abscess involving the middle ear and side of the face, accompanied with profuse bloody discharges, the lumen of the auditory canal being filled with a mass of polypoid granulations. The girl was admitted into the hospital, and the following operation performed.

She was etherized, and by means of Wilde's modified snare the entire polypoid mass was removed. This was followed by a profuse discharge of dark venous blood, which was checked by syringing with ice-water, and then the meatus was packed with tannic acid, camphor and iodoform. After this operation she was kept in bed for a few days until she recovered from its effects.

On December 3 she was again put under the influence of ether, and on introducing a probe it was found that the external auditory (bony) meatus and temporal bone of the left ear were necrosed; there was also ulceration and sloughing of the whole cartilaginous canal. A strong pair of bone forceps were carefully introduced, and considerable force employed so as to bring the diseased portion of bone to the surface; but it was not considered safe to remove it at that time. It was so large it was feared it would lacerate and injure the parts.

She was again taken to the ward, after stopping the flow of blood with antiseptic cotton. The resident physician of the hospital was directed to keep the parts well packed, using powdered boric acid with absorbent cotton; and for the removal of any offensive odor to use a solution of permanganate of potassium. After ten days of this treatment, the dead bone became so loose that it was removed through the enlarged meatus without pain or any symptoms of cerebral disturbance.

The patient was kept in the ward for six weeks, until all discharge had ceased. She was then placed upon large doses of iodide of potassium and tonics, strychnia, etc., with the use of the galvanic battery for the facial paralysis. She became well and strong, able to talk more plainly, and to use her feet and limbs. She could hear loud conversation in the right ear, but there was no improvement in the facial paralysis, nor diminution of the deafness in the left ear.

[1] See author's "Clinical Manual of Diseases of the Ear," p. 361, 1887.

After her discharge, the mother was given a card to Dr. G. Betton Massey, a distinguished electro-therapeutist, who treated her for some time, but without much benefit, for the paralysis. Time has restored in part the connection of the nerve. Such cases as this have been reported by Dr. Friedrich Bezold[2] and others.

Description of the Specimen.—From the density of structure, weight, and shape of the portion of bone removed, we felt convinced that it was almost the whole of the petrous portion of the temporal bone. This opinion was confirmed by a more careful examination and section by Dr. Morris Longstreth, pathologist to the hospital. The following is his report:

Report on Sequestrum from the Ear.—The sequestrum, embracing the whole labyrinth and Fallopian canal, measures in its long axis nearly an inch ($\frac{5}{6}$ inch), and its transverse measurement on section surface is slightly over half an inch ($\frac{17}{32}$ inch). It weighs 36 grs. Its surface is rough, jagged, and eroded by the necrotic process, except at one portion posterior to the internal meatus, which appears dense, white and smooth, like the inner skull surface covered by the dura mater; on this part is a shallow furrow like those provided for the folds of this membrane, or for a blood-vessel or sinus. The opposite surface shows above the "fenestra ovalis" and below it the "fenestra rotunda," the latter opening broken and irregular.

The fragment of bone is penetrated by several foramina—one large one towards the tapering end, and two smaller ones near the same end, but on the opposite aspect; these two are the entrance and exit of a canal (referred to before) through the bone tissue. A section through the long axis of the fragment, which on the cut surface shows itself to be very dense, reveals a half dozen cells, excavations which intercommunicate and are connected with the external foramina already spoken of.

In the interior was found the vestibule with its fossæ, the cochlea, modiolus and lamina spiralis, with the semicircular canals broken off near their junction with the vestibule.

May 5, 1888. The present condition of the patient is as follows: She is in perfect health, well and strong, being able to hear a twenty inch watch one inch on the right side, the right being the ear from which the portion of necrosed mastoid was removed.

There has been no discharge from either ear since the removal of the diseased bone. The C-3 tuning-fork was heard (felt) in the air in front of both ears, but as a musical sound heard only in the right ear. Her articulation is at times more or less imperfect, but she is able to talk, and repeat the German alphabet and give all the letters their proper sound. She attends a German school

[2] "Necrosis of the Labyrinth and Paralysis of the Facial Nerve." Archives of Otology, vol. xvi, No. 4.

with hearing children. The facial paralysis remains the same. The experiment of Valsalva is felt in both ears.

The meatus from which the sequestrum of the left labyrinth was removed is twice the size of the normal, and cicatricial tissue is seen on its sides. In the other there is a small narrow meatus with a cicatricial pseudo-membrana tympani.

This is a remarkable case, in that, after the most severe symptoms involving the brain, accompanied with paralysis of the face, arms, limbs, and total deafness on one side, and such a copious discharge from the ears, there should be recovery to such an extent that the patient has no otorrhœa, is able to hear and converse, and so take her place at home without having to be sent to an asylum.

The specimens, photograph and cuts were presented to members of the Section for inspection.

M. HARTMAN, of Berlin, has treated a case of necrosis, with exfoliation of the labyrinth, and although the tuning-fork was heard on that side, the patient was deaf to the sound of the voice.

M. POLITZER gave an analogous case, that of M. Burkhardt-Merian at the Congress of Bâle, which seemed to indicate that the sound could be directly perceived by the acoustic nerve.

DR. BARR, of Glasgow, showed the sequestration of the osseous labyrinth of a child ten years of age, attacked after several years of otorrhœa, following scarlatina. The patient had a facial paralysis, but was not affected with dizziness, although the semicircular canals were eliminated.

M. GELÉE: I ask my confrères if they think anyone can hear without ears, or if it would not be better to suppose that these eliminated sequestrations did not comprise the entire ear. For my part I prefer to believe that there is yet a portion of the labyrinth which perceives the sound of the tuning-fork rather than to suppose that the facts exist contrary to physiology.

THE THERAPEUTIC ACTION OF SOME OF THE MINERAL WATERS OF THE UNITED STATES UPON MALARIAL DISEASES;

WITH RULES FOR THEIR USE.

Read before the American Climatological Association at the Congress of American Physicians and Surgeons, Sept. 19, 1888.

BY W. C. VAN BIBBER, M.D.,

OF BALTIMORE, MD.

The effect of bad air upon the human system is shown in various ways, the differences depending upon the particular kind of air which causes the diseased conditions. Salubrious situations on the earth are known and recognized mainly from certain characteristics of the human inhabitants. It is true that other air breathing animals are injuriously affected by bad air, but this comparative study is not within the scope of the present paper.

Many of the changes in health, and grades in constitution produced by climate upon man are well known, and those peculiarities of disease existing in the inhabitants of different atmospheric planes have not escaped observation. The practicing physician and climatologist will do well to study the effects of hills and mountains upon the human organism, for they exercise influences not to be accounted for by the chemical analysis of the air. By far the greatest number, as well as the most serious diseases, produced by the quality of the air alone, are found to originate in the lower strata of the air, that is, at an elevation but little above the level of the sea. It is true most of the inhabitants of the earth live in these lower strata, because most of the great cities of the world are built upon navigable waters, and the most fertile lands are found in alluvial formations.

It is believed that the plane of the atmosphere three hundred and fifty feet above tide water is for the most part free from that mysterious something which produces ague and fever. A few noteworthy exceptions may be found to this law, but the planes of the atmosphere, from the tide level, to a height of ten thousand feet, have already been studied as to the production of certain diseases, and to the curing of others, and the work is still going on. This is one of the chief problems of the science of Climatology; and one result of these observations shows that certain symptoms and individual appearances, accompanied by constant pathological changes, are found with us, only as a rule, upon the ocean slopes and large river bottoms, and seem to be identified with this particular atmospheric plane.

To state the matter more precisely, we may say that, if a thousand men should be selected and taken from our sea-board swamps and river bottoms, below the thirtieth parallel of latitude, and placed side by side with a thousand men selected from a plane of the atmosphere over three hundred and fifty feet above tide water, north of the 30th parallel of latitude, the one set of men, can be distinguished from the other set, by the practicing physician, both whilst the men are living, as well as by an examination of the organs of the cadavers. Again, it is believed, that, should the men from the hills and those from the swamps change abodes for a few years, corresponding changes would take place in their physical peculiarities and outward appearance. These peculiar individual changes are wrought in a gradual manner by time, and, until recently, it seemed to be by an undetected hand; yet the changes are none the less certain and well marked.

It is the changes which will take place in the thousand men transferred from the hills to the swamps which will now engage our attention.

These changes steal along in the human system, for a time possibly without noticeable manifestation; until finally, a culmination takes place, and a chill, a fever and a sweat ensue in their proper courses. Then what was latent before soon becomes active, and the marked individual appearances begin to manifest themselves. These are externally, a sallow and stretched skin, muddy colored conjunctivæ, dry hair, dry and brittle nails, emaciation, a stooped curved and shrunken figure, and a slow crumbling of the teeth. The peculiar sensations or feelings which accompany these external appearances, are a gradual loss of strength and vigor, a desire to recline and rest, torpor of mind as well as of body. As mental effects we notice loss of ambition, indecision, procrastination, superstition, a craving for stimulants, with a continuous belief in "biliousness." These symptoms come on slowly and may continue for years without relief, because they seldom, or never, of themselves produce death, though their effects are serious and far-reaching; and, as will be seen hereafter, the three largest and most important organs of the body are so altered in texture and function, that there is, comparatively speaking, but little of the physiological man left. It is no wonder therefore that there should exist under these circumstances a predisposition to pneumonia or other fatal affections. So that, when from some intercurrent disease or from accident, death does ensue, the liver is found enlarged, generally softened, but sometimes indurated, and always changed in color, being filled with a black substance called "pigment." The spleen is likewise enlarged, softened and changed in color. The marrow of the bones is also altered in color and consistence; and a peculiar crescent shaped micro-organism has been found in, and around the red blood corpuscles, which is thus described, in a letter to me by Surgeon George H. Sternberg, U. S. A. He says:

"In response to your questions I would say that the parasite discovered by Laveran in the blood of malarial fever patients presents itself in various forms. Some in the interior of the red corpuscles, amœboid and segmenting forms, and some free in the serum, crescentic and flagellate forms. That these forms represent different stages in the life-history of the same micro-organism is inferred from the fact that pigment granules are found in all of them, and also from their association in the blood of malarial fever patients and from the fact that they have not been observed under other circumstances.

These facts also give strong support to the view, that the parasite in question bears an etiological relation to malarial manifestations. The rapid destruction of red corpuscles during a malarial paroxysm, and the accumulation of dark pigment granules derived from the blood especially in the liver and spleen as the result of repeated attacks, is quite in accord with the observations of Laveran, Richard, Marchiafava Celli, Golgi, Councilman, Osler, and others relating to this interesting hæmatozoon."

The disease now under consideration, was anciently called malaria because it was universally believed to be due to unwholesome air. At present there is a question whether it comes into the system from the air, or through the water, in those situations where it is found; but there can be no question as to the identity of the affection; and this is the disease which will be considered in this paper.

It is surely a high office for the physician to study additional means of relief for those piteous sufferers from this terrible malady, and no more useful aim can engage the attention of this Society than to unite, in its collected wisdom, during this discussion, in an endeavor to ameliorate such suffering as is familiar to you all. The most important advance in this direction, was the introduction into Europe of the cinchona bark about the middle of the seventeenth century, and its properties as a febrifuge were soon widely recognized. Numerous theories have been advanced as to the mode of operation of this remarkable remedy, and still the problem remains unsolved; perhaps only to find a solution when we shall thoroughly understand the diseased conditions for the relief of which it is employed. The three things which we may take as definitely settled, are that the "Jesuits' powder" is beneficial in these fevers, that it does not always cure them; and that we neither know why it succeeds nor why it fails. The immense number now suffering from both the acute and chronic forms of this kind of malaria, notwithstanding the most liberal use of the specific remedy, is sufficient to prove conclusively that it has not an absolutely curative effect by itself.

The purpose of this paper is to suggest certain supplementary or auxiliary remedial agents in the treatment of these diseases; and these are found among the mineral waters of the United States. For more than eighty years the waters of the Greenbrier White Sulphur Springs, in Greenbrier County, Virginia, have had a high reputation for the cure of malarial diseases. The situation of the spring is in a beautiful mountain valley, twelve hundred feet above tide level. The medicinal virtue of the water is supposed to reside both in its solid and gaseous contents. Bad cases of the kind of malaria which has been described, are to be found visiting this spring every summer for the benefit of its water; and a large proportion of these patients come from the cotton and rice plantations of the sea-board; some from the valley of the Mississippi river and its tributaries; and others from the valleys of the rivers which empty into the Gulf of Mexico. I first visited this spring as a physician in 1851.

Since that time I have had opportunities to study and observe the effect of this water upon the kind of malaria which has been described; and my observations have led me to adopt a regular system for its use.

The plans of cure which I shall recommend have been tested upon many patients and with generally good results. It often happens that those wishing to be benefited cannot remain at the spring longer than from two to four weeks; and to suit this necessity, the plans have been called the two and the four weeks plans.

That for two weeks consists in drinking as much of the water, early in the morning, as is necessary to sensibly affect both the bowels and the kidneys—enough to give one or two loose watery movements from the bowels, and a free discharge from the kidneys. For this purpose an average person will require from two to four glasses of the water early in the morning. These should be taken whilst the patient is in active exercise in the open air, and two hours should elapse after drinking the last glass of water before taking breakfast. At noon take a warm bath of the sulphur water, temperature 94° to 98° F. and remain in the bath from fifteen to twenty minutes. Whilst in the bath drink two or three glasses of the sulphur water. The time of the bath should be arranged so as to have dinner or lunch soon after leaving it; say about two o'clock, which is the usual dinner hour at the hotel. After this drink two glasses of the water at five o'clock P.M.; and two before retiring at night. Wash in the sulphur water morning and night; and exercise freely during the day by walking in the mountains. This two weeks systematic course has such a decided alterative action that few persons can safely carry it further than the time specified.

In the four weeks course the bath is ordered every *other* day, and the amount of the water to be taken may be proportionately moderated. The four weeks course should always be preferred when time can be given for this purpose. The object of this treatment is to produce a continuous acceleration in the action of both bowels and kidneys, and to increase the activity of the skin. These three objects are undoubtedly accomplished, and during the active course of treatment a good indication of its future success is found in the increased vigor and improved appetite; elevation of spirits, with a feeling of lightness of the body, and buoyancy of the mind, which are most agreeable. One of the peculiarities of this water when drank pure from the fountain, is to elevate the spirits with a sensation not unlike that produced by champagne. It causes a slight feeling of dizziness and an excitement of the brain. It may be this which gives a charm to the place, and a lustre to the ball-room which is not seen elsewhere. But it should always be used with reference to individual idiosyncrasies, either pure from the fountain, or "staled" by the evaporation of its gas according to the valuable rules given by Dr. J. J. Mooreman, who was for more than thirty-five years the resident physician there.

The other springs, with the waters of which I have had nearly as long an experience in chronic malarial troubles, are the Saratoga Springs, in Saratoga County, New York. There are now more than twenty-one springs opened at this famous place, each one of which has a different chemical analysis. My observations have been more particularly confined to the Congress, the Hathorn, the Hambleton and Washington Springs as drinking waters, and to the Putnam, the White Sulphur, and the Red Springs as bathing and washing waters. From these I have made up a definite course of treatment, which I advise for two weeks and four weeks, similar to the courses already given for the Greenbriar White Sulphur water, and which, I think, has many advantages.

During the first week of the two weeks course. as much of the water of the Congress Spring should be taken, early in the morning, combined with active exercise, as will produce a decided effect upon the bowels and kidneys. An average person will require from two to four glasses of this water, and the last glass should be taken about an hour and a half before taking breakfast. During the second week of this course the Hathorn Spring should be used. Take each day at noon a bath of the Putnam or White Sulphur water, at a temperature of 94° to 98°F., and remain in the bath from fifteen to twenty minutes, drinking whilst in the bath, one or two pints of the Hambleton Spring water. At 5 P.M. take a wineglassful of the Washington Spring water, not more; and at 6 and 10 P.M. take one or two glasses from the Congress or Hathorn Springs. Wash night and morning in the water of the Red Spring.

This gives a definite course of treatment, the object of which is to produce an alterative effect, and to rapidly change the molecular structure of the body. Few individuals can continue such a course of these waters for a longer period than two weeks. In the four weeks course, which is always to be preferred if it is possible, the bath is to be taken every other day and the amount of the waters taken each day to be proportionately diminished.

In this course of treatment, by the water of either of these springs, the activities of the body are increased in every department, the bowels, kidneys, skin, liver, stomach, mind and spirits are all safely and agreeably stimulated. It is a full occupation of his time for a patient to undergo this treatment. To most persons it is a delight to experience the sensations resulting from it. The entire body seems to be renewed, the patient feels confident that the change will be last-

ing. It is a safe treatment; it is systematized and may be changed to suit individual cases. If this system is carried out it may be of service in preventing that blind bathing and drinking which our physicians find so injurious at all the springs in this country and which is in strong contrast with the practice at similar health resorts in Europe.

Having pointed out two springs which are salutary in malarial troubles, and having given those rules for the use of their waters which I have found most beneficial, I might here let the subject rest; but the disease of which we are treating is such a remarkable one, its literature is so large, its prevalence so widespread, its theories so interesting, that I trust I may be permitted, in closing, to say a few words concerning the modus operandi, or the manner by which the beneficial effects of the proposed system are produced.

Until about eight years ago everything concerning the cause of intermittent or remittent fever was obscure, and everything concerning the manner of its cure was a matter of theory and conjecture. Now a step has been taken in advance which will increase the interest attached to its treatment. Students in Europe; at the Johns Hopkins University; in Philadelphia, and elsewhere in this country, have made public the results of study and experiment, which bring the whole subject into a new phase; replace fancies by facts, and introduce a new method of treatment. To bring this out clearly, I will place side by side the two explanations of the manner of cure, in order to contrast the old teaching with the new:

The old explanation.—"By the use of the waters as advised, all the outlets of the body have been opened, and in this way the diseased particles have been removed. What particular path they took to get out of the system is a matter of conjecture; but the result of the treatment is sufficient to prove the fact that they were eliminated by some means or other."

The new demonstration would read in this way:—"The hæmatozoon which controls the disease has been found, and a study of its movements will alone reveal the truth. The number of red blood-corpuscles which have been damaged in any particular case can be told by actual count; and the restoration of healthy red blood-corpuscles can be determined in the same way. Under certain favorable circumstances the healthy red blood-corpuscles are rapidly formed, and when they are sufficiently abundant and vigorous, they dominate the system, resisting both the reception and encroachments of the disease. Those globules that were formed at the two springs, both of which are situated at elevations above the usual melanæmic line, were produced under different and favorable circumstances of air, food and water. If, during a certain system of treatment, the blood be rapidly brought from a condition of disease to one of comparative health, we may legitimately infer that those globules which have been formed in the progress of the treatment, are of a healthy character; and if we were able before, to detect special vitiation in the red corpuscles, we may expect to find special improvement in these. And this is precisely the result which follows the treatment I am recommending."

Without entering into technical detail, I think what has been said represents the present state of our knowledge concerning paludal malaria. The plans which have been advised for its adjuvant treatment, I can recommend to you after an ample experience, and if they should be sanctioned by your reason and used in your practice, I cannot doubt that the benefits will at least be equal to what I have mentioned as the result of my own experience.

MEDICAL PROGRESS.

EFFECT OF LANOLIN ON MICRO-ORGANISMS.—The results of GOTTSTEIN'S experiments on this subject are thus given in the *Deutsche Med. Zeitung*, Berlin: 1. The bacteria which effect a spontaneous decomposition of glycerine fats belong presumably to the class of anaërobes; a number of aërobe germs (even the putrefactive) perish on a medium containing fat. But the term of continuance of this retrogressive metamorphosis is decided by the proportion of fat to the other ingredients of the nutritive medium. 2. Free fat contains anaërobes for some days after it is exposed; but lanolin has under similar circumstances neither aërobe nor anaërobe germs. 3. Glycerine fats may be so impregnated with bacteria that the latter can pass through the fat to the lower-lying infectible substances, while lanolin cannot be permeated by bacteria. It acts, therefore, as a preventive of decomposition when laid over infectible substances.—*British Medical Journal*, Nov. 10, 1888.

A DIAGNOSTIC SIGN OF NEPHRITIS.—GEISLER says that the elimination of iodide of potassium by the kidneys may be used as a diagnostic sign of nephritis. While the quantity of albumin increases with the accentuation of the lesions of the glomeruli of the kidneys, the rapidity of elimination of iodide of potassium remains normal. But it is diminished as the lesion of the canaliculi of the kidneys becomes more advanced. This is true in both the chronic and acute forms of nephritis.—*Vratch*, No. 27, 1888.

TARTRATE OF THALLIN INJECTIONS are recommended for gonorrhœa, in 1:50 and 1:100 naphthol solutions. Use three injections of one-half or one-third a syringeful daily.

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SATURDAY, DECEMBER 1, 1888.

THE NUMBER AND VARIETY OF MEDICAL SOCIETIES.

In THE JOURNAL for November 24, 1888, we made some suggestions in answer to the question, whether the formation and support of so many American associations of medical specialists was not tending to the disintegration and final destruction of the American Medical Association as the great representative organization of the profession in this country? While we then freely expressed our conviction that no fears need be entertained of such a result in the future, and candidly admitted that such National specialist organizations were affording a useful field for some members of the profession to work in, who would not work in any other, another and perhaps more important question demands more attention than it has yet received. Are there any evils arising, or likely to arise, from the organization of an unlimited number and variety of medical societies, each acting independently of all the others?

If, as is the fact, we have in each of the larger cities from six to ten independent medical societies, and in each State not only one general State medical society but several State societies of specialists, and then several societies receiving members from parts of several States, does it not almost necessarily tend to so far divide the time and work of the working members of the profession as to impair the efficiency and influence of the whole? No member of the profession engaged in active practice, can well afford to attend and sustain properly more than one local medical society meeting weekly or semi-monthly; one State society meeting annually or semi-annually; and one National society meeting annually in different parts of the country.

If he divides his time with a larger number of societies, he lessens the amount that he can give any one; or if he tries to contribute something to a larger number he either presents the results of his work so hastily and imperfectly prepared as to be of little value, or he reads substantially the same paper to three or four different medical societies as an original contribution to each. One of the most important defects in the contributions to medical societies in this country is, incompleteness, arising from insufficient time and attention given to their preparations. But those who advocate the organization of as many independent medical societies, local, State, and National, as there are special departments of the science and art of medicine, evidently overlook one of the fundamental and important objects to be gained by professional society organizations. This object is, to bring those representing all classes and interests in the profession *together* at stated intervals, that by personal acquaintance, friendly intercourse, and mutual interchange of knowledge, personal and sectional prejudices should be removed, the common-stock of professional knowledge and skill increased and more widely diffused, and the unity and power of the profession as a whole greatly strengthened. Instead of fostering this fundamental object, the organization of an independent society, local, State and National, for every *specialty* in medicine, only tends to keep the cultivators of each isolated from the others; or if any attempt is made to obviate this by bringing representatives of all these together once in three or five years, it still leaves the great body of educated and faithful general practitioners out of recognition, and directly makes the line of distinction between the specialist and practitioner more plain, and more rapidly develops into full maturity the class distinctions of specialists, consultants and general practitioners with their inevitable jealousies and bickerings.

On the other hand, with one general medical society in each city, county and State, with one National society constituted of representatives from all these, and in each of which the practitioners of every department of the healing art

can meet on a common platform; and yet within the regulations of each, Sections sufficient to accommodate the more detailed work of every legitimate specialty; we would have the most complete professional organization possible; combining all the inspiration, homogenity and power derived from unity, with every advantage for detailed scientific work in the several Sections, that could be afforded by any number of separate specialist organizations. We wish every intelligent, earnest worker in our profession would give more thought to this subject. If in "union and harmony there is strength," it logically follows that in seggregation and discord there is weakness.

RHEUMATISMAL METATARSAL OSTEO-PERIOSTITIS.

The apparently unrecognized, or but little recognized disease of infantrymen, is written of in an interesting article in the *Revue Générale de Clinique et de Therapeutique*, of October 25, by CH. ELOY. It may be considered as an œdema localized at the head of the two or three metatarsal bones of the centre of the foot, with an accompanying osteo-periostitis. The cases on record number 20, 8 having been reported by Pauzat in 1887, 11 by Poulet 1888, and one by Eloy. Of the 19 cases of Pauzat and Poulet, 2 were old soldiers. In all of the cases the symptoms came on after marching. In all the cases there were two cardinal symptoms: painful œdema and periostitis. The œdema was first manifested, after one or more long marches, by a swelling limited to the level of the dorsal face of the two or three intermediate metatarsals, and sometimes invaded the root of the toes or effaced the tendinous projection of the extensors. It is of medium hardness, depressible under the finger, and accompanied by slight elevation of the temperature. The pain accompanying it is not spontaneous, but is provoked by pressure and by movements. There is a very manifest arthralgia of the metatarso-phalangeal joints when a toe is seized with a pair of forceps and repeatedly flexed. The localized œdema and the pain are the signs of the beginning of the affection, and characterize the first period. After some time periostosis begins. The finger, and sometimes the eye, of the observer can detect swelling of the metatarsals. This periostosis may appear as early as the fourth day, but usually not until the twelfth or fifteenth day. Whether it comes on early or late, the periostosis persists for several weeks, or even months after the disappearance of the œdema, the diminution of the pain, and the return of the tendinous prominences to their normal form. These phenomena characterize the second period—the osteoplasic phase.

There are two views as to the pathogenesis of this affection. On the one hand it is claimed that it is a traumatic periostitis; on the other, it is thought to be an osteo-periostitis of rheumatismal origin, and consequently the local manifestation of a specific affection. Pauzat excludes all constitutional influence. His patients were young men, 21 or 22 years old, robust, vigorous, with well-formed feet, but unfitted by previous occupation for long marches. Fatigue, then, seems to be a predisposing cause. Seven of the eight cases reported by Pauzat were those of soldiers recently enlisted. But it is a curious fact that the affection was never bilateral; one foot only was affected, and one as often as the other. Is it not possible, however, that men that have not learned the whole art of walking perfectly, use one foot more than the other—put more strain on one foot. Some football players, for example, can kick with only one foot, while others use each foot with equal facility. Can the shoes be responsible for the affection? In view of the small number of soldiers affected this does not seem probable; but it would be interesting to have some statistics from the Spanish army, in which, we believe, the soldiers use sandals on the march.

The prognosis of the affection is serious, according to Pauzat; good, according to Poulet. Pouzat's unfavorable opinion is based on the fact that the osteo-periostitis places the patient out of actual service for a considerable time. Poulet bases his prognosis on the fact that the malady does not prevent the patient from entering the service again.

The treatment of the affection, according to Eloy, consists in rest, elevation and immobilization of the foot, and topical applications and compression. Topical revulsives, such as the iodides, should be used in the osteoplasic stage of the disease.

"CHEESINE," the most recent American product, is said to be a product of skim milk, alkali, and hog fats.

OUTBREAKS OF MALIGNANT DIPHTHERIA.

Since November 1st outbreaks of malignant diphtheria have been reported from Brainerd, Minn., Moline, Ill., New Orleans, Wabash, Ind., Galesburg, Ill., Coxsackie, N. Y., Waterloo, Iowa, Oxford Junction, Iowa, and several other places. During the month of October, at Moline, Ill., there were 69 cases and 12 deaths, and during the first 17 days of November 41 cases, with a smaller death-rate. In New Orleans diphtheria has been more than usually prevalent during the past few months. The extent to which it has prevailed in New Orleans of late months is something of a novelty for that city. The statistics of the Board of Health show that the number of cases of diphtheria has been on the increase for several years past, and this year the virulence of the disease has redoubled. This fact, taken in conjunction with the almost total immunity from this trouble enjoyed in the past by this city, proves the existence in New Orleans of conditions and unsanitary influences that did not previously prevail.

In New Orleans the disease is not particularly virulent in localities, but is scattered all over the city with the exception of the Carrollton district, where no cases have occurred. It has attacked indiscriminately white and black, and has visited as well the homes of the rich as the abodes of poverty. The system of isolating the sick by flagging the dwellings in which diphtheria exists has proved effective, as the number of cases is steadily diminishing, so that there is every prospect that the disease will soon be stamped out. During the first 16 days in August there were 69 cases, during a like period in September 77 cases, in October 58 cases, and during the same number of days in the present month but 44 cases were reported. Whilst fighting the disease, the Board of Health has watched every detail that might throw light on the causes producing it. All infected premises have been thoroughly examined as to local and surrounding sanitary conditions, and all information has been carefully tabulated. The Board of Health officials complain of the utter indifference shown by citizens generally to sanitary measures. This accusation, whilst probably just, is one that can be brought against the citizens of many other communities than New Orleans.

In Wabash, Ind., more than a dozen deaths had occurred up to Nov. 18. Dispatches from Wabash state that "the malady was at first thought by local physicians to be membranous croup, and was so treated, but at a council held it was decided that it is diphtheria. The scourge is confined to children whose ages range from 1 to 10 years. Every case has so far resisted treatment and proven fatal, the patient dying within two or three days. The symptoms are all similar to those seen in croup of the most malignant form."

At Oxford Junction the epidemic is now subdued, but while it lasted there were 190 cases and 42 deaths. At Waterloo, Iowa, the town officials issued a "quarantine" proclamation, closing indefinitely all schools, churches and Sunday schools, and ordering that all persons dying of the disease be buried within twenty-four hours.

At Coxsackie, N. Y., diphtheria was spread in the following manner: The body of a child, aged 9 years, who died of diphtheria at Guilderland, was brought to that village in an open wagon Nov. 10, not disinfected, and buried there. The coffin was opened at the grave and viewed by the members of the family. Since then of those who viewed the body, an aunt died on the 12th, a brother aged 4, on the 14th. The State Board notified the Health Officer that he must quarantine any persons affected with the disease.

A dispatch of November 19 says: "Diphtheria is still raging in Galesburg, Ill. Many deaths are reported and many new cases are daily coming to light. The health officers are making a thorough investigation as to its causes, and have just come to the conclusion that the water in the school building had something to do with it, and consequently have ordered it shut off."

Diphtheria made its appearance in Vermillion County, Ill., about Nov. 14, and soon broke out in the village of Rossville. Cases exist in many families. The public schools were all closed on Nov. 23. No religious services will be held in any church for several Sundays, and no public meetings of any kind will be allowed in the village for four weeks. Business is retarded, and the citizens are greatly alarmed over the malignancy of the disease, but hope by strict measures to prevent its further spread.

Diphtheria is properly classed among the preventable diseases. In spite of this, and of the many and repeated outbreaks of the disease, two of the most difficult things known to sanitarians are to get the people interested in sanitary meas-

ures to an extent sufficient to assist health officers, and to get the newspapers to print really valuable sanitary information. It seems to be a singular trait of the human mind that makes people so blind to their own best interests. Civilized man can be touched most easily through his pocketbook, and sanitary workers should lose no opportunity of showing the people what a good investment, from a financial point of view, health service is.

EDITORIAL NOTES.

DISEASE-RIDDEN INDIANS. — Indian Agent Jones, of the Berthold Agency, has made application to the Department for a physician who shall remain constantly at the Agency. This request is the result of hurried examination of the health of the Indians. Mr. Jones was recently appointed. He finds that disease runs rampant among the entire Indian community. The Indians at this Agency are in a most deplorable condition. In the past their health has been neglected, they have been permitted to roam about the country and, as a result, some members of the tribe have returned to their camps laden with disease, which has spread to nearly every Indian at the Agency. It is understood that the request for a physician has been granted, and that steps will be taken to prevent the further spread of disease among the tribes. The condition of affairs at the Agency in the past has not only ruined the health of the Indians, but has been a constant menace to the whites with whom the Indians necessarily associated. So great became this danger that the county and city authorities were alarmed, and the Mayor of Bismarck was compelled to serve notice on the former Agent that if he did not keep his Indians on the reservation an investigation of the matter would be demanded. Agent Jones hopes to be able to check the disease and promises to keep the Indians on the reservation.

CHOLERA AND CROWDED ROOMS.—DR. DELOS RIOS gives as the result of his prolonged investigations of the subject the following remarkable statistics bearing upon the mortality of cholera, in relation to the number of persons occupying one room when attacked by it: Of 10,000 persons attacked by cholera, and living one person in a room, 68 died; of 10,000 attacked, where there were one or two persons to a room, 131 died; of 10,000 persons who were attacked, living two to four to the room, 219 died; finally, of 10,000 persons attacked, living four or more to the room, 327 died. No data appear as to the varying size of the rooms, which must, of course, have constituted an important factor in their hygienic character—as must also have been their location in the upper or lower stories, etc.

THE INFANT HOSPITAL AT VIRGINIA BEACH. —This institution, the benefits of which cannot be doubted, appeals to the hearts of all parents, and the noble efforts of those who have had the matter in charge should be encouraged by such liberal contributions as will enable them to continue it and greatly extend the field of usefulness of the sanitarium. The last report shows that the hospital has done good work during the past summer. Mothers are allowed to accompany their children to the hospital, and thus the managers are relieved of much responsibility, and the mothers are materially benefited, not only in health, but in learning the necessity of careful diet and cleanliness for their children. The Virginia Beach Railway furnishes free transportation to mothers and children to and from the hospital.

A VICTIM TO THE MORPHINE HABIT.—The son of a late prominent Chicago lawyer was recently picked up unconscious in the street from the effects of morphine. He said at the station house the next day that his life had been wrecked by following his physician's advice. Six years ago he was recommended to take morphine as an antidote for his appetite for drink. The habit grew upon him until he became wholly a slave to it. He has spent one year in the Washingtonian Home without being cured of the appetite. It is possible that the unfortunate man told the truth, but it is probable that he did not. One can scarcely imagine a physician so ignorant of therapeutics or so devoid of moral sense as to substitute the morphine for the alcohol habit—unless he were a charlatan of the most disgraceful type.

DIRTY MATTRESS FILLING.—At the meeting of the Provincial Board of Health of Ontario on Nov. 9 a letter from a doctor in Guelph was read, enclosing a sample of the wool batting found in a mattress direct from the manufacturer's hands. It was a collection of the dirty odds and

ends about the floor of a woolen factory, including the sweepings. It had an offensive smell and was stated to have a most pernicious effect on the health of the unfortunate people who have to sleep on such beds. The letter concluded by urging upon the Board of Health the necessity of pressing on the Government to have an inspector appointed wherever such manufactures exist, with power to prevent such "abominable outrages upon the health of the unsuspecting public."

EPIDEMIC OF FIBRINOUS PNEUMONIA.—At the recent Congress of Polish Physicians and Naturalists at Lemberg, JAWORSKI and CHROSTOWSKI mentioned a small epidemic of fibrinous pneumonia observed by them. There were five cases of the disease in one house; the patients had been employed in cleaning out a ditch. It was found that the house in which these cases occurred had not been free from pneumonia since 1860. The pneumococcus of Friedländer was found in the exudation taken from the lungs of these patients by means of the needle of a Pravaz' syringe, and also in the earth of the ditch mentioned.

TO INVESTIGATE CATTLE DISEASE.—The Bureau of Animal Industry has requested Dr. Bowhill, of San Francisco to proceed forthwith to San Diego, in connection with the investigation into the cattle diseases on the Pacific coast. Dr. Bowhill will take all apparatus necessary to explain to Boards of Supervisors, and others who may be interested, the means by which different diseases may be discovered and controlled. His mission is purely a protective one, and so far as he is aware there is no increase in the mortality of cattle, nor any new disease developing.

HEALTH AT GREAT ELEVATIONS.—Dr. A. Tucker Wise, in a recently published work, advises patients afflicted with the following diseases to refrain from seeking health at high elevations: Diseases of the brain, heart, or large vessels; tendency to articular rheumatism; kidney diseases (during winter); acute inflammations of throat or larynx; some diseases of bladder or prostate; also, persons somewhat advanced in years should not visit the mountains unless the circulating system is sound.

AN OPENING FOR HOSPITAL INTERNES.—It is said that a circular will soon be issued from the Surgeon-General's office to the resident physicians of all the civil hospitals in the country for the purpose of giving them an opportunity to appear before a board of medical officers in May, 1889, and enter the army on that date if they so desire, it being the special wish of the Surgeon-General to secure for the medical corps of the army the services of young men who have gained practical experience in their profession by a residence in the large city hospitals.

THE AMERICAN PUBLIC HEALTH ASSOCIATION closed its annual meeting at Milwaukee November 23. The following were chosen officers for the ensuing year: President, Dr. H. A. Johnson, of Chicago; Vice-Presidents, Dr. Jerome Cochran, of Mobile, and Dr. Frederick Montizambert, of Quebec; Secretary, Dr. I. A. Watson, of Concord; Treasurer, Dr. J. Berrien Lindsley, of Nashville. Brooklyn, N. Y., was selected as the place for the next annual meeting.

A NATIONAL BOARD OF HEALTH.—The Richmond, Va., Chamber of Commerce has received a memorial from the Chamber of Commerce, of New Orleans, asking the assistance of the Chamber in the matter of getting legislation to create a National board of health. Hon. George L. Christian, a member of the board, will examine into the matter and give his views.

"DR." CLARKE'S CLERK FINED.—Conrad Lunds, a clerk in "Dr." Clarke's office on Clark street, Chicago, has been fined $100 and costs for practicing medicine without a license. The prosecution was brought by the State Board of Health, and is an outcome of the failure hitherto of its efforts to suppress "Dr." Clarke's business as a "specialist."

ACUTE GASTRITIS, not yellow fever was the malady of a young woman removed to Bellevue Hospital on Nov. 17, with "symptoms of yellow fever." She died next morning. Even had she had yellow fever, her removal was wholly unnecessary, and probably contributed to her death.

THE PENNSYLVANIA STATE MEDICAL SOCIETY will meet in Pittsburgh in June, 1889. Drs. E. A. Wood and Wm. S. Foster have been selected by the local profession as Chairman and Secretary of the Reception Committee.

DR. J. ADAMS ALLEN, of Chicago, has recently given his library of more than 2,000 volumes to the Presbyterian Hospital of this city.

SOCIETY PROCEEDINGS.

Medical Society of Virginia.

Nineteenth Annual Session, held at Norfolk, Virginia, Oct. 23, 24, and 25, 1888.

(*Concluded from page 749.*)

FRIDAY, OCTOBER 26—THIRD DAY.

THE PRESIDENT IN THE CHAIR.

DR. JOHN B. HAMILTON, Surgeon-General U. S. Marine Hospital Service, was introduced as an invited guest and, in response to requests, gave an

ACCOUNT OF THE EPIDEMIC OF YELLOW FEVER IN FLORIDA.

He said he could not hope to say anything in the nature of *instruction* to this old and distinguished Association, especially as what he shall say is entirely unpremeditated and without preparation. But in epidemiology *history* is always interesting, and he will therefore briefly give the outline history of the epidemic of yellow fever now existing in the State of Florida.

Last year the yellow fever appeared in Key West in the family of a restaurant keeper by the name of Baker. It appears that a family of Bolios, who had kept hotel in Havana in various places, the last being called the *Quinta-Avenida* (Fifth Avenue Hotel), unfortunately for Florida, emigrated to Key West. Their household effects, under the regulations governing the regular lines of steamers, could not be shipped by them, so they shipped their effects, consisting of bedding and various articles of furniture, by an irregular "tramp," not now running, called the "Cochran." There was no objection officially made at Key West, as there was neither Government nor local quarantine, and these were landed and stored above Baker's restaurant. The Baker family died of the fever, and thus the fever started and rapidly became epidemic. The Government, under the operation of that section of the statutes forbidding interference with local authorities, did nothing except, on request of the Governor, to aid the local board, established a dispensary and paid the expenses of the city hospital. To enable the speedy depopulation of the city, a refuge camp was established at Egmont Key, at the mouth of Tampa Bay. No case from Egmont communicated the disease.

The first cases in Tampa were kept secret from August to October 21. A family of Italians by the name of Turk, fruit dealers, brought the fever into Tampa. The steamers had refused, under orders from the Hillsborough County Board of Health, to bring fruit from Havana or Key West. These Italians finding it impossible to continue in business set up a smuggling line and brought fruit by way of Punta Gorda Bay, and overland to Tampa. For this purpose the man Turk and his assistant Peep, or "Pete," made frequent surreptitious visits to Key West while the disease was there epidemic, and blankets were purchased in the infected city, and used while on the overland trip and brought to Tampa. It is a significant fact that the whole family of the Italians were the first taken sick, that they were not publicly known to have been out of the town, although the fact is now known. The measures taken by the Government were simply to conform to the wishes of the Governor to *aid the Hillsborough County Board of Health*. The duty of preventing the spread of the disease was undertaken by the Florida State Protective Association, an organization consisting of one representative from each County Board of Health, under the presidency of Dr. King Wyley, of Sanford. In December the Association raised the quarantine against Tampa; the County Board of Health asserted that the disease had disappeared, but unfortunately the disease had not been stamped out, and although the cases of fever lingered all winter in Tampa its existence there was bitterly denied.

From Tampa the disease spread to Plant City, Manatee and other places, and it is now believed that the fever was at Jacksonville as early as February. Dr. Guitéras, of the Marine Hospital Service, an acknowledged expert, says that, in his judgment, at least two of the cases of "society fever," of which there were over thirty reported in Jacksonville in that month, had the well-marked clinical history of yellow fever. Nine of these cases died. Dr. Potts treated cases in Bay Street in June, and there were probably cases continuously until the formal announcement was made.

So-called isolated cases had been reported in Jacksonville after the case in Bay street had been treated in June by Dr. Potts, but that the local authorities denied the presence of an epidemic and placed a guard around each case. This state of things existed until August 26, when the spread of the disease in Jacksonville became so great, cases springing up at various points in the city, that could not be traced to any of the so-called isolated cases, that the authorities had to declare the disease epidemic.

The disease had been introduced in Decatur, Alabama, by a man who had gone from Jacksonville while all of the cases in that city had been reported under guard. His ticket had been from some point outside of the infected city, and consequently he was not denied admittance.

The fever had been introduced in Gainesville and Fernandina by baseball players who had played a game of ball in Jacksonville before the epidemic nature of the disease had been declared and then returned to these cities.

He then went on to explain the Government work at Camp Perry, and said that since its

establishment there had been only one death from yellow fever in the fever hospital at the Camp. He said that the experience of the physicians at the camp went to show that five days was the incubative period, and that when persons had been in the Camp for that length of time and did not develop the disease, there was no danger of their having it, no person having spent ten days in the camp had developed the fever after leaving the station.

He spoke of the lack of local inspection at Tampa where the disease first appeared this season, and said that if the first cases had been reported that there would probably have been no epidemic, and he also said that he had proof to show that when the case of McCormack was reported as the first in Jacksonville, that the fever was even then epidemic.

He also stated that while the fever was raging at Key West, he, at the request of several health officers, had prepared a bill providing for the establishment of a State Board of Health, but it was laid on the table by the Florida Legislature through motives of false economy.

He concluded by saying that the inspection of Florida cities, ordered by the Government, had developed the fact that the yellow fever was epidemic in both Enterprise and Fernandina.

DR. RANDOLPH BARKSDALE, of Petersburg, read a

REPORT ON PSYCHOLOGY AND NEUROLOGY.

He sketched the history of the treatment of insanity. Over 2,000 years ago, insanity was believed to be a state of possession by the devil, and the treatment was directed towards driving the devil out, and punishment of the person for letting the devil get control of him. Hippocrates was the first to cast off such superstition, and announced that insanity was the result of disease of the brain; that the mind—the soul—could not be diseased, and his doctrines prevailed and resulted in improved treatment. But after the fall of the Roman Empire these doctrines passed away, and again the insane became the victims of persecution and of punishment. And it was not until 1795 that Pinel inaugurated the reformation in treatment which prevails to this day. He announced that insanity is a disease, and that the insane are therefore entitled to all the care and tenderness of the skilled physician and nurse. From year to year since then, improvements in the provisions for and care of the insane have taken place, as of other diseases. Under the head of *neurology*, Dr. Barksdale referred to some of the approved uses of electricity in medicine, and also noted approvingly some statements of Dr. Seguin and others regarding the localization of cerebral functions with reference to the help of such information to the surgeon in selecting the site for trephining in certain obscure brain injuries or diseases.

DR. W. D. HOOPER, of Liberty, in his

REPORT ON THE ADVANCES IN THE PRACTICE OF MEDICINE,

gave a brief account of the progress of the germ theory in the last twelve months, saying the advance had been in rather a "retrograde" direction, as Sternberg proves Freire's inoculations for yellow fever are a failure, and M. Gibier has not discovered the true germ of that disease, but thinks he himself has! Pasteur's patients are dying of hydrophobia, but Koch is more fortunate with his bacillus, as it was accepted as true by a recent Congress for the study of tuberculosis which met in Paris. Pasteur thinks M. Gamalier, of Odessa, has discovered a true inoculation for cholera, and referred his communication to the prize committee of the Academy of Sciences.

DR. BARKSDALE also gave a description of a

NEW METHOD OF TREATING ULCERATED BLADDER WITH PROSTATIC ENLARGEMENT, BY REPEATED IRRIGATIONS

of that organ with warm salt and water holding iodoform in suspension. He uses for the purpose a Y-shaped tube 5 inches long, attaching the tube of a fountain syringe to one of the short arms and a rubber tube to the other, while the long arm of the tube is inserted into the catheter. He reported two cases: the first, aged 78 years, relieved on his deathbed when all other means had failed; the second, aged 75, perfectly cured, as he now sleeps all night without emptying his bladder, and rides horseback during the day.

DR. C. E. BUSEY, of Lynchburg, read a paper on

CULTIVATION OF VOCAL MUSIC IN THE SCHOOLS, AS ONE OF THE MEANS OF PREVENTING PHTHISIS.

He states it as a well-known fact that those nations which are given to the culture of vocal music are strong, vigorous races, with broad, expansive chests. If an hour a day was devoted in our public schools to the development of vocal music, there would not be the sad spectacle of the drooping, withered, hollow-chested, round-shouldered children. There is too great a tendency to sacrifice physical health upon the altar of learning. Vocal music is gymnastic exercise of the lungs, producing increased expansion of the lungs by development of the lung tissue itself. The lungs in improved breeds of cattle, which naturally take little exercise and are domiciled much of the time, are considerably reduced in size when compared with those animals running at liberty; and so it is with the human race who lead inactive lives caused by civilization. Phthisis generally begins at the apices of the lungs because these parts are more inactive, and because the bronchial tubes are so arranged that they carry the inspired air with greater facility to the bases than to the api-

ces. During inactivity, a person will ordinarily breathe about 480 cubic inches of air per minute. If he will walk at the rate of six miles an hour, he will breathe 3,260 cubic inches. In singing, this increases more than in walking, as to sing well requires all of the capacity of the lungs. The instructor of vocal music, in addition to his musical education, should understand the anatomy and physiology of the respiratory organs.

DR. G. MCDONALD, of Union, West Virginia, in his

REPORT ON OBSTETRICS,

spoke of the value of *asepsis and antisepsis in midwifery*, repeating the precautions that have time and again been repeated in books, journals, etc. As to *anæsthetics* in labor, chloral hydrate, in 15 grain doses, every half hour or so, is better during the early stages of labor than chloroform, which latter should be reserved for the final throes. The placenta is best expelled by *Credé's method*. It has been recommended to pack the cavity of the uterus with iodoform gauze in cases of *post-partum hæmorrhage*, after the failure of ergot, hot or cold injections, etc.; but as a rule, empty the uterus promptly and cause tonic contraction of the organ. In cases of *placenta prævia* the tampon may undoubtedly be used to gain time for sufficient dilatation of the os uteri in order to use the hand, etc. When a case of *occipito-posterior position* is seen before rupture of the membranes, and before the head and shoulders become impacted in the pelvis, introduce the aseptic hand (patient under chloroform), catch the head between the fingers and thumb and rotate the occiput forwards, when the labor may proceed as a normal case. In regard to *face presentations*, when the chin falls into the hollow of the sacrum, bring the chin forward, and hold it there until expelled. The Veit-Smellie method is advocated for delivery of the after-coming head in *breech cases*. The importance of laparotomy, etc., in rare instances in obstetrics is dwelt upon.

Dr. W. W. Parker, of Richmond, read a paper entitled: *What is the Duty of a Doctor to a Patient suffering from Malignant Disease?*

DR. GEO. B. MCCORKLE, of Covington, presented the

REPORT ON DISEASES OF WOMEN.

In regard to *electricity*, he presented the conclusions of Dr. Martin, of Chicago, as to its use in the treatment of fibroids of the uterus: It is free from danger; is absolutely painless; invariably checks excessive hæmorrhage; rapidly reduces the size of the tumors; stops neuralgic pains; its use is based upon the principle of the exact dosage of electricity. Electricity has likewise proved useful in removing tumors from the female breast, in the practice of Dr. Garnett, of Berlin. It has also been useful in increasing the flow of milk in mothers' breasts. Dr. Byford uses electricity in paralysis of the bladder after inflammation has subsided. Dr. Rockwell has successfully used it in amenorrhœa. Even in a case of complete extrusion of the uterus electricity has been successfully resorted to to retain the organ in place after its reposition. Operative procedures seem to be taking the place of pessaries. Dilating and curetting the uterine cavity for numerous growths on its inner surface, etc., are again becoming very popular.

Dr. Oscar Wiley, of Salem, made the report on *Diseases of Children*.

Dr. M. A. Rust read a paper entiled: *Mysticism in the Development of Medicine*.

Dr. William L. Robinson, of Danville, read a paper on the *Conduct of Enciente Women before and after Delivery*.

DR. ALFRED C. PALMER, of Norfolk, read the

REPORT ON OPHTHALMOLOGY.

He divided his subject so as to speak systematically of whatever concerned: (1) the lids, lachrymal apparatus and orbit; (2) the cornea, conjunctiva and sclera; (3) accommodation, refraction and the motor apparatus; (4) the uveal tract, vitreous, aqueous, and lenses; (5) the retina and optic nerve.

DR. JOHN T. FRANCIS, of Norfolk, presented the

REPORT ON OTOLOGY AND LARYNGOLOGY.

He first speaks of the pathology of aural vertigo, and then, with reference to the treatment of otorrhœa, says that lactic acid attacks only the fungous growths, and diminishes the secretion and causes the odor to disappear. Pilocarpin is also recommended. Photoxylin (20 per cent. solution) closed a perforation in the membrana tympani. The ear is first syringed with boracic acid solution, and dried with absorbent cotton. Then the edges of the perforation are painted several times until the perforation is covered. He reports a case of serious injury to the ear as a result of simply syringing that organ for a purulent discharge. The remainder of the report is on laryngology, and speaks mostly of laryngeal tumors, tracheotomy, chronic and atrophic rhinitis, hay fever, etc.

DR. CHAS. M. SHIELDS, of Richmond, read a paper on

ENLARGED TONSILS—WHAT SHALL WE DO WITH THEM?

He had never seen a single case of true hypertrophied tonsils permanently removed by the application of any of the astringents, absorbents or mild caustics suggested, or by the injection into their substance of iodine, ergotin, etc. In soft varieties or in the case of young children where prompt contraction of the bloodvessels follows cutting, he uses the tonsillotome; but in the hard fibrous varieties and in adults, where there is

danger of alarming hemorrhage he prefers the use of the galvano-cautery.

From six to eight points over the surface of the tonsil should be touched with the moxa point electrode heated to a red heat at one sitting, and usually from four to eight sittings are required to shrink up the tonsil thoroughly. If a 10 per cent. solution of cocaine is first applied, patients will usually complain of no pain. Dr. Shield's conclusions were: In all cases except in young children or where the tonsil is very soft, the galvano-cautery method of removal is to be preferred, because, 1st. The tonsil can be more nearly restored to its normal proportions. 2nd. Irregularly shaped masses of hypertrophied tissue can be removed that could not be encircled by the tonsillotome. 3rd. The effect seems to be more permanent. 4th. It is devoid of all danger.

Dr. Joseph A. White, of Richmond Va., read a paper on *Improved means of Diagnosis and Surgical Treatment of Nasal and Throat Troubles, with practical remarks.*

After the adoption of a number of resolutions simply of State or local interest, etc., this session of the society adjourned *sine die.*

The social features were excursions, drivings, banquetings, etc. Of course they were popular, as they were all well prepared, and most hospitably given. The effect of this session upon the profession of this State was most excellent.

Obstetrical Society of Philadelphia.

Stated Meeting, October 4, 1888.

THE PRESIDENT, T. M. DRYSDALE, M.D., IN THE CHAIR.

(*Continued from page 753.*)

DR. W. J. TAYLOR presented with the following remarks:

THREE UTERINE MYOMATA.

These three tumors were removed to-day from a case of considerable interest. The patient, a woman, æt. 30 years, was married on the 7th of last May. On the 20th she had her last menstruation, and from that time considered herself pregnant. The abdomen began to swell and she had a good deal of pain. A few days ago she sent for me, and I found her with the abdomen much enlarged and presenting the symptoms of pregnancy. On the right side, however, there was a hard mass which puzzled me very much. She was seen by Drs. W. W. Keen and B. C. Hirst, and the conclusion was reached that an operation was necessary. To-day abdominal section was made. It was found that the uterus contained a fœtus, and that there were three fibroid tumors: the largest was sub-peritoneal, the smallest was attached by a small pedicle, and the second in size was also sub-peritoneal. These were removed, and the patient is at present doing well.

DR. W. W. KEEN said that Dr. Taylor had not done himself justice in his modest narration of the steps of the operation and in his reference to the question of diagnosis. When I saw the patient last Monday it was a question whether the large mass on the right side was a uterine myomata or a tubal pregnancy. It had grown rapidly and *pari passu* with the uterus. Two facts in favor of its being a solid tumor were its density, and the fact that the pulsation of the aorta could be distinctly heard with the stethoscope at every point over the tumor. Its rapid growth seemed to be opposed to the idea of myoma. Dr. Hirst was of the opinion that it was a tubal pregnancy, at the same time recognizing an intra-uterine fœtus also. She had albuminuria. When Dr. Taylor opened the abdomen two large tumors presented, which coalesced below but were separated above. Passing the hand into the abdomen the left tube and ovary were found normal. On the right side, it was at first not possible to recognize the ovary and tube, but by enlarging the incision the hand was passed well down, and the ovary and tube found. By the side of this tube was a vein considerably larger than my thumb. The pregnant uterus was recognized as the large tumor to the left. It was soft, elastic, and dark in color. That to the right was recognized as a neoplasm. While I lifted with difficulty the upper end of the tumor, Dr. Taylor incised its capsule and enucleated it until he came to the attachment to the uterus which was over a space of three or four inches in diameter, when the weight of the tumor then caused the uterine tissue to tear, and the large sinuses began to bleed freely. I next grasped the pedicle with the thumbs and forefingers of both hands while he stripped off the sac. The tumor was thus quickly removed, and the uterine tissue and the wall of the sac were seized with large hæmostatics and hæmorrhage controlled. It was necessary at several points to introduce sutures into the uterine wall itself to control the bleeding. The redundant portion of the sac of the tumor was cut away, and the edges brought together with the continuous catgut suture; a drainage tube was passed down into its cavity. In at least two places, and possibly four, there were, upon the uterine wall small masses about half the size of my little finger-nail. These looked like beginning malignant tumors. From the appearance and the rapidity of the growth, I think this may be a sarcomatous tumor, though it is possibly a simple myoma.

DR. PARVIN thought that there was one point that even Dr. Keen had omitted. He saw the operation and the great mass of the tumor was included between the layers of the R. broad liga-

ment, so that the first incision was through the anterior layer of the ligament. Formerly in removing a subperitoneal fibroid from the posterior surface of the uterus the pedicle partial y tore while the ligature was being applied and there was free hæmorrhage. He finally succeeded in stopping the bleeding by the use of the continuous catgut suture, after other measures had failed.

DR. HIRST said that Dr. Keen had certainly expressed his views. The symptoms pointed strongly to extra-uterine pregnancy. If the case had been allowed to go on to term Cæsarean section would have been required, as the tumor filled up the pelvis. He had looked up this subject of injuries to the pregnant uterus and had found some interesting cases. In one case the woman was thrown to the ground and jumped upon when six months pregnant. The fœtus was killed but she went on to term. In another case trachelorrhaphy was performed during the second month of pregnancy. This case went on to term. In another instance a number of leeches were applied to the cervix of a pregnant uterus without any interruption to pregnancy. In a case I had last spring the woman was squeezed between a bale of goods and the wall and was seriously injured, but she went on to term. A German operator has such confidence in his ability to plunge a trocar into the uterus without doing harm that he advocates the occasional withdrawal by aspiration of the liquid in hydramnios with very great distension of the uterus, allowing the child to go on to term.

DR. PARISH said that the removal of ovarian tumors during pregnancy was recognized as a proper operation, but that the removal of uterine subperitoneal fibroid tumors during pregnancy was not a proper operation, except under certain special circumstances. The injuries necessarily inflicted on the uterus in their removal are liable to induce abortion. It would be interesting to have the further history of this case. The microscope alone could determine the character of this growth. Under ordinary circumstances the rapidity of the growth would point to sarcoma, but it is well-known that in pregnancy fibroid tumors occasionally take on a rapid growth. He supposed that Dr. Hirst did not refer to the cases he had cited as indicating rules of practice. It must be the urgency of the condition which justifies operations on the pregnant uterus. While pregnancy may go on after injuries to the uterus there are numerous unreported cases where the opposite has been the result. Where a subperitoneal tumor can be lifted from the pelvis pregnancy may go on.

DR. J. PRICE thought that obstetrically the case was one of great importance. Some time ago he had called attention to three parallel cases. They all went to term with a pelvic tumor and died undelivered. The question of differential diagnosis scarcely concerned many operators at present, all that was required was the knowledge that there was a tumor present. We should never wait until the patient's general health has been impaired, as this is a departure from that generally followed in general surgery.

DR. HOFFMAN had been recently consulted by a woman who stated that she was pregnant and that at previous labors the baby "had to be mashed up." The pelvic cavity was found to be filled with a tumor and she was advised to undergo an operation for its removal. This she refused. It seemed to him that there could be no doubt of the propriety of immediate operation in cases like the one before him.

DR. B. F. BAER believed that in this case, after the exploratory incision had been made and it was found that no extra-uterine pregnancy existed, it would have been better to have closed the incision than to have removed this amply located solid tumor; but since the removal was determined upon, it would have been better to have amputated the uterus at the neck than to have permitted it to remain with a great wound in its side and in the broad ligament. It is not likely that, after such a serious operation, the pregnancy will go on to term anyway, and abortion occurring within a short time after the operation will certainly add to the risks of the patient. He asked if there were any subjective signs of pregnancy (extra-uterine) in this case, such as the peculiar pains, uterine hæmorrhage or discharge of decidua?

DR. KEEN thought that the removal of the uterus would have been a wholly unjustifiable procedure. It was possible that the woman might miscarry, but it was also possible that she would go to term. It has been shown that pregnancy is not necessarily a bar to operation. Not only would the sacrifice of the fœtus have been unjustifiable, but hysterectomy would have made a young married woman sterile. The added dangers of hysterectomy, too, might have turned the scale against the patient.

DR. M. PRICE asked if Dr. Baer would expect to have uterine hæmorrhage in a case of extra-uterine pregnancy where there was also a fœtus in the uterine cavity?

DR. B. F. BAER said that he would expect in such a condition that, as the result of the extra-uterine irritation, abortion would take place, and then we would have both hæmorrhage and decidua. In regard to the removal of the uterus in this case, it seemed that Dr. Keen condemned the procedure because of his anxiety to save the child. He, however, believed that the child would have had a better chance for its life if nothing had been done. But if operative measures were imperative, then he still held to his former opinion. In answer to still further questioning from Dr. M. Price, he said that he believed that hæmorrhage may occur and the extra-uterine sac remain unrup-

tured. He had seen a case which supported that view. The patient, after missing her menses for two months, was one day seized with severe pain in the right iliac region, which was followed by shock. She fell in her yard, and when her physician arrived he found a condition of shock as well as hæmorrhage. A few weeks later she had a similar attack. He was then sent for and the diagnosis of extra-uterine pregnancy arrived at. This was five years ago, and Thomas' method of operating by the vagina and opening the sac with a hot knife was followed. The sac was found with no evidence of rupture in it. The liquor amnii was clear and no evidence of hæmorrhage into the cyst, which there would have been had a rupture taken place. The fœtus was indeed alive. The patient died on the fifth day after operation.

Dr. Wm. J. Taylor closed the discussion by saying that in this case the tumor was absolutely fixed. The woman's general condition was poor; the pulse 120; the patient not able to eat; had suffered intense pain and diarrhœa for a number of days previously. The tumor was also growing rapidly. The urgency of the case seemed to call for some relief. There was albuminuria. If the matter had been allowed to go on to term—provided the woman had lived that long—the risks to both mother and child would have been greater than they were at the present time.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Transmissibility of Tetanus—Infectious Nature of Tetanus—Osseous Grafts—Corrosive Sublimate in Cholera—Management of Abortion—Periodical Neuralgia of the Cornea.

Professor Verneuil, who introduced into science the notion of the contagiousness of tetanus, and its equine origin, follows the development of this idea with great solicitude and embraces every opportunity of justifying his views on the subject. At a recent meeting of the Academy of Medicine he read a report on two papers, the one by Dr. P. Berger, entitled, "The transmissibility of tetanus from man to man," and the other by Dr. G. Richelot "on the infectious nature of tetanus." M. Verneuil reviewed the whole subject in a most masterly manner, and terminated his report with the following conclusions: 1. The intra-human transmission which although demonstrated as yet by only a small number of facts, cannot be contested in principle. 2. This transmission does not appear to be affected by the atmosphere, but is accomplished by direct or indirect contact. 3. The first mode, that is, "immediate contagion," is not as yet established by any decisive fact. The second mode, or "mediate contagion," is supported, on the contrary, by a great number of clinical proofs. 4. It is sometimes still very difficult to discover the veritable agent of transfer among the numerous and varied intermediary means graduated between the first tetanic subject and those that follow. 5. This research should be prosecuted with pertinacity, for it alone will teach us to prevent a mode of extension of the malady, which is perhaps rare, but altogether indisputable.

At the same meeting Dr. A. Guérin presented a certain number of osseous grafts practiced by Dr. Mossè, of Monpellier. These operations were on the rabbit, the dog, and the monkey, and were thus classified: 1. Re-implantation of a fragment of the skull removed by trephining. 2. Transplantation of the fragment on an animal of the same species. 3. Transplantation on an animal of a different species. It is sufficient to preserve the periosteum for this re-implantation to be effected with success.

Dr. Yvert, a French army surgeon, has made a communication to the Academy of Sciences on the treatment of cholera with corrosive sublimate. During his service at Tonquin he had occasion to employ the drug in doses of from 2 to 4 centigrams a day, in subjects affected with cholera. The results were most encouraging, for of 45 patients suffering from the disease, 9 only had succumbed, thus reducing the mortality to 20 per cent. He had also recourse to the same medication in a certain number of convalescent soldiers, the greater number of whom had suffered from dysentery, and although they had sojourned in the midst of cholera patients, not one was affected by the cholera epidemic, thanks to the absorption of the bichloride of mercury which was administered to them as a preventive measure.

The following are rules published by Dr. Nitot in the *Revue Obstétricale* on the management of cases of abortion: 1. In presence of the imminence of abortion we should, if there is still time, notwithstanding a commencement of uterine contractions and loss of blood, prevent the abortion being effected, in prescribing absolute rest in bed, enemata of laudanum or, what is still better, hypodermic injections of morphia. 2. If the abortion is inevitable, we should favor the spontaneous expulsion of the product of conception, opposing at the same time a too abundant loss of blood. With this view absolute rest should be insisted on, and vaginal injections, which should be hot (45° C.) and antiseptic, should be prescribed every two or three hours. These will favor the dilatation of the uterine neck and combat the hæmorrhage. However, should the flow of blood be too abundant, vaginal plugging should be employed. This measure will act not only in arresting the hæmorrhage, but will hasten the termination of the abortion. The administration of the ergot of

rye should be guarded against; as the drug, in provoking contractions of the neck of the womb, is liable to imprison the placenta in the uterine cavity. 3. But if, in spite of these precautions, the abortion, clearly established, lingers some time; if the placenta, adherent or not, remains imprisoned in the uterine cavity, it would be better to accomplish artificial delivery than to temporize longer, and to empty the uterus in order to avoid the dangers of a tardy abortion, such as hæmorrhage more or less grave, or septicæmia, which are likely to occur. In acting thus, the future safety of the patient is ensured. 4. Finally, if it should become necessary to combat one of these dreaded complications which may break out, such as septic fever or repeated abundant hæmorrhage, which the plugging and the hot injections might have arrested only momentarily, no more hesitation should be permitted. It will be necessary to intervene with the fingers if the uterus is in a state of sufficient dilatation, or in practicing the antiseptic "curage" or cleansing of the uterus after previous dilatation, if this is necessary; for to wait longer, in this case, would be to expose the life of the patient.

Dr. Granclément, of Lyons, has described an affection which is rather frequent, consisting in a sort of periodical and ill-defined neuralgia of the cornea, following a very slight traumatism of this membrane. The traumatism consists, more frequently, in a simple grazing by the leaf of a shrub, the finger of a little child, or any other soft body which cannot do much hurt. To this condition he has applied the term "traumatic keratalgia." Soon after the accident, although the cornea presents no excoriation, the patient suffers a good deal and periodically from neuralgic phenomena which are reproduced irregularly for some years, like rheumatoid pains. One can only attribute these accidents to a slight neuritis of one or more of the ciliary nervous filaments of the cornea which are found in the sphere of action of this slight traumatism. If the stronger traumatisms of the cornea, such as those resulting from the incrustation of a splinter of iron, or any other metal, do not leave behind them similar neuralgias, it is because the nervous filaments touched had been destroyed, and not simply bruised. The only remedy which appears to relieve these patients is the employment of cocaine. A. B.

THE PASTEUR INSTITUTE in Paris was formally opened on November 14 by President Carnot. Pasteur himself was present and was loudly cheered by the people.

TRINITY MEDICAL DINNER.—The Students of Trinity Medical College held their twelfth annual banquet on Nov. 13. More than 250 guests were present.

DOMESTIC CORRESPONDENCE.

LETTER FROM BOSTON.

(FROM OUR OWN CORRESPONDENT.)

Acute Lobar Pneumonia in Children — Pelvic Hæmatocele; Operation by Laparotomy; Suture of Cyst to Abdominal Wall and Drainage—Laparotomy for Volvolus—Removal of a large part of the Frontal Bone for Compound Fracture.

At the meeting of the Suffolk District Medical Society, on Oct. 27, Dr. C. W. Townsend read an extensive and interesting paper on "Acute Lobar Pneumonia in Children." He said that we should make a distinction between *lobar* and *lobular or broncho-pneumonia*, although this is not generally done, it being customary to find both forms classed together in the returns as pneumonia. Lobar pneumonia is an acute specific disease, whereas lobular or broncho-pneumonia is a secondary affection and is almost always secondary to a bronchitis affecting the smaller bronchi. When a pneumonia is spoken of in young children, the lobular pneumonia is the form that is generally understood to be in consideration. This, however, should not be the case; for the lobar form is by no means uncommon, the writer having recently seen 42 cases of undoubted lobar pneumonia in children under 10 years of age. Of these cases, 5 occurred in children under 1 year of age; 5 occurred in children between 1 and 2 years old, and 7 occurred in children between 2 and 3 years old.

Probably the reason that pneumonitis is so frequently overlooked in infants is because the signs that are diagnostic of pneumonitis in adults are in large measure either modified or wanting. These signs are:

1. Sudden onset with rigor.
2. Localized pain in the affected side.
3. Cough.
4. Rusty expectoration.
5. A characteristic high temperature.

1. The onset is generally sudden in young children, and the chills or rigors are almost always absent. In their stead are found vomiting and convulsions.

2. Pain is frequently absent in young children, and when present it may be elsewhere than in the affected side, *e.g.*, it is frequently referred to the abdomen.

3. The cough is generally present. It is frequently loose and hacking. In 6 of the abovementioned 42 cases there was no cough at the onset. It frequently increases as the disease increases.

4. The rusty expectoration is generally absent in young children, for it is swallowed. Of the above cases only 3 cases, æt. respectively 7, 8, and 10 years, had any rusty expectoration.

5. The increasing high temperature is charac-

teristic in young children as found in 37 of the above cases, 29 cases ending by crisis and 8 by lysis. The seventh day was generally found favorable for the crisis, the temperature rose continuously up to 104° as a rule. The highest temperature reached was 106° in one case. None failed to reach 103°.

A change in the disposition of the child generally occurs after the crisis. The cough frequently continues. The physical signs generally coincide with the temperature. They may be tardy in making their appearance. The true crepitant râle is frequently not found but vocal fremitus and consolidation will decide. It is highly probable that some of the so-called acute febriculas of children are really pneumonia. The expiratory moan and dilatation of the alar nasi are not characteristic. Cerebral pneumonia frequently means only pneumonia in a child of a highly nervous organization, and there are no cerebral or meningeal lesions. Herpes occurred in only three of the above cases.

The diagnosis must be frequently made from the history. Pneumonia is sudden and broncho-pneumonia is less sudden and generally follows bronchitis. In pneumonia the temperature is higher than in broncho-pneumonia. Broncho-pneumonia never ends in crisis. The prognosis is generally favorable. Of the above-mentioned 42 cases only two died and both of these were feeble, ill-nourished children. One was rachitic and the other had a large abscess. Several cases have been reported where children have been born with pneumonia, the disease having commenced in utero. All of these cases are fatal.

In the discussion, Dr. Francis Minot said, that the fact is important of the great frequency with which it can be *demonstrated* that pneumonia has a local organ, *i.e.*, that it is infectious. It may occur successively in the same house in different seasons.

Dr. T. M. Rotch said that in children with pneumonia there is an absence of the physical signs that occur in adults. The child may be totally unconscious for a week, and then the pneumonia shows itself. He was reminded of two cases in one family, one child being aged 3½ years and the other 16 months. In the elder the attack commenced twelve or fourteen hours later than in the younger. For five days both were unconscious and vomiting, with symptoms of acute milk poisoning, and there were no physical signs. Their food was changed and they remained unconscious for three days more, when the left lungs showed a commencing solid area and the temperature went up, together with the other signs of a real pneumonia. This continued for seven days and ended in crisis, and all along the signs in the elder child continued to be twelve or fourteen hours later than in the younger. In the treatment antifebrin is a good thing, but in administering it we should avoid giving it at the time of the crisis, when it is dangerous.

In the absence of the writer, the Secretary read a paper by Dr. C. B. Porter, on "Pelvic Hæmatocele. Operation by Laparotomy,—Suture of Cyst to Abdominal Wound and Drainage,—Recovery." The patient was 30 years old and unmarried. Her catamenia had been regular and normal every four weeks, the flow lasting four days. During the two weeks previous to being seen, she had been loosing appetite and strength. Her bowels were regular, and she continued to work at her ordinary duties. One night she was awakened from sleep by severe pain in the left iliac region at first and then shifted. Then there was vomiting and small movements. A swelling appeared in the right iliac region. On examination she was lying on her back with her legs extended and her countenance had an anxious expression. Pulse 68. A swelling was found in the right iliac region. Per vaginam the cervix uteri was found movable. The urine was examined and was normal. The vomiting became troublesome. The urine had to be drawn with the catheter. On the third day it was decided to operate. An incision was made one inch above Poupart's ligament. A large cystic tumor with tense walls at once came into view, This was stitched to the edges of the wound, so as to shut off the abdominal cavity and it was then opened. Three pints of a dark bloody fluid were then removed. This was examined by the microscope and was found to contain no formed elements. It was probably ascitic fluid with blood. There were no clots. A large drainage tube was put in and the sac was washed with a hot solution of sulpho-napthol. The third day the discharge was colored. Three weeks afterwards when it was syringed, some threads of necrosed membrane came away. There was steady recovery, and seven weeks after the operation (near 16th) there was very little discharge. On April 3rd she left the hospital.

Dr. M. L. Richardson read a paper on "Laparotomy for Volvulus." On the 3d of July he operated on a man 57 years old, who had a history as follows: On the 28th of June he had a chill and a sensation of fullness of the abdomen and twisting of the intestines, as he himself expressed it. Two days later even a cup of tea caused him to feel very full. His temperature was 99.4. There was pain in the left iliac region. July 2d, there was no pain and he had two liquid stools. Note this improvement. On July 3d he had a collapse. When seen he had dulness in abdomen, most marked on left side in iliac region. There was vomiting and now severe signs of obstruction. Laparotomy determined upon as a forlorn hope. On opening the abdomen the intestines presented and were distended and of a dark purple color. A twist was found in the small intestine. The

coil was very heavy and filled with fluid. Death followed in a very few hours. At the autopsy the next day the intestines were removed *en masse* and were sent to Dr. Fitz for examination. The blood in the mesenteric system was found clotted and at this stage he was undecided whether this was due to a thrombus in the portal system or to volvulus.

In conclusion, Dr. Richardson said that in grave cases of doubt, with symptoms of obstruction, an early operation is advisable. By an exploratory incision much is gained and little is lost.

In discussion Dr. E. N. Whittier said that he had seen the case in consultation. Note how deceptive the case was. At first the man seemed so little sick that he objected to being kept at home in bed. Note also the two semi-liquid discharges which were deceptive. The mass felt was easily moulded and doughy. The twist was in the upper part of the small intestine, and so the tumor was very low down for it.

Dr. H. E. Marion, in whose practice the case occurred, said that it had not been mentioned that there was vomiting of stercoraceous matter, and also that the necrosis affected nearly the whole length of the small intestines.

Dr. F. B. Harrington reported a case of "Removal of a large part of the Frontal Bone for Compound Fracture. Recovery." The patient was a brakeman, æt. 28, who had been struck on the forehead by a bridge. The face was very much swollen and crepitus could be distinctly found over the middle of the forehead. The patient was dull and heavy, but would answer questions. On incision the frontal bone was found in several pieces overlapping one another irregularly, and in all about one-third of the bone was removed, the exact portion being marked out on a skull that was passed around. The dura mater was found to be wounded in one or two places. The wound was packed with iodoform gauze. For a few days he had delirium, but he recovered rapidly and became rational. When discharged there was a slight pulsation over the cicatrix. N.

Use of the Heel in Walking.

Dear Sir:—Will you permit me to enter my protest against the editorial entitled, "How to Dress and Walk," which appeared in THE JOURNAL of the 17th inst.? I will not be so uncharitable as to suppose that there was any intentional misrepresentation of the fair exponent of the Delsartian method of walking. But she certainly performed her task poorly, if the women of the Physical Culture Club failed as completely to understand that method as the editor of THE JOURNAL seems to have failed.

I am familiar with the Delsartian teaching on that subject, and I will say that is does not at all teach one to ignore the use and support of the heel in walking. It does teach, however, and I believe, correctly, that the weight of the body should *not* be thrown upon the heel. I must decidedly disagree with the editorial writer when he asserts that "the heel was made to step on, to bear the *whole weight* of the body at the beginning of the step." The weight of the body at the beginning of the step, is mainly borne on the ball of the *other foot*. The heel of the advancing foot should bearly touch the ground before the ball is also brought down, and it is not till after this that the weight of the body should be transferred to that foot, and then the spring for the next step naturally brings the principal weight upon the *ball* of the foot.

Let anyone try to walk across the floor, putting his whole weight upon the heel of the advancing foot, and even if he does not fall over, I think the experiment will convince him that this method of walking is no more physiological than it is Delsartian. The lady to whom reference was made, is a good Delsartian teacher, and she does not, by precept nor by example, *usually* teach her pupils to let their heels fall into "innocuous desuetude." Respectfully yours,

A SISTER.

November 21, 1888.

[The lecture in question was reported in a Chicago paper. The lecturer's remarks on "how to walk" were quoted directly in the paper. The only meaning that could be given the words quoted was, that a person should not step on the heel in walking. It was not intended to say in the editorial article that the walker should rest for a time upon the heel of the advancing foot.]

BOOK REVIEWS.

AN ILLUSTRATED ENCLOPÆDIC MEDICAL DICTIONARY.—Being a Dictionary of the Technical Terms used by Writers on Medicine and the Collateral Sciences, in the Latin, English, French and German Languages. By Frank P. Foster, M.D., Editor of the *New York Medical Journal*, with the Collaboration of William C. Ayres, M. D., New Orleans; Edward B. Bronson, M.D., New York; Charles Stedman Bull, M.D., New York; Henry C. Coe, M.D., New York; Andrew F. Currier, M.D., New York; Alexander Duane, M.D., New York; Simon H. Gage, Ithica, N.Y.; Henry J. Garrigues, M.D., New York; Charles B. Kelsey, M.D., New York; Russell H. Nevins, M.D., New York; Burt G. Wilder, M.D., Ithica, N. Y. Vol. I. With Illustrations; 4to, pp. xii, 752. A—Ca. New York: D. Appleton & Co. 1888.

We have, at last, a medical dictionary that will

repay consultation, and never leave the consulter in doubt. For years the tempers of medical men have been sorely tried by the incompleteness of existing dictionaries, by no means complete when they were published, and necessarily more incomplete as each succeeding year added new words or gave new meanings to terms already in use.

There is but one medical dictionary in any way comparable to the one under consideration, and that is the "New Sydenham Society's Lexicon of Medicine and the Allied Sciences," which has two great faults. It includes a great deal that has no bearing upon medicine or the allied sciences, and its orthography, particularly in regard to German and other foreign words, is singularly defective. Obvious errors in other dictionaries are repeated, showing that much has been taken for granted. Every page of Foster's Dictionary shows accurate work in every respect. It contains no unnecessary matter. Voluminous as the work may appear, it is really compact, concise in definition; the definitions are in almost all cases logical definitions, without the patience-trying defining by synonyms.

This is not an English medical dictionary only; it is also a Latin, or a French, or German medical dictionary. For example, in reading a French work we may turn to this dictionary to find the meaning of a French medical word. We can but regret that it is not also an Italian medical dictionary. Under "Auf" we find more than four pages of German words; under "Aus" more than five pages of German words. Under *Acide* we find fourteen pages, averaging almost 200 titles to a page. Bacillus takes up nine pages, bacterium three pages, bone about eight pages. The analyses of the mineral waters are given when mineral springs are named.

As must be apparent, an exhaustive review of a dictionary in a short space is an impossibility; one meets with the same difficulty encountered by the Hibernian, who found that the subject changed too often for him to become deeply interested. The writer is familiar with almost every lexicon that a medical man can use. Foster's Dictionary is far beyond and above all; the whole work shows completeness and faithfulness, and this can be said of no other medical dictionary. No physician's library will be complete until all the volumes of Foster's Dictionary are on its shelves.

MISCELLANEOUS.

ASSOCIATION OF ACTING ASSISTANT SURGEONS, U. S. ARMY.—Those familiar with the army medical history of the frontier for the past twenty or thirty years will readily bear witness to the faithful and intelligent discharge of their duties, by the Acting Assistant Surgeons of the U. S. A. In fort and in camp, on the long overland expedition, or in the Indian wars, these men have done their duty as faithfully and with the same professional efficacy as if they had been regularly commissioned officers. Indeed, if they have not borne the burden and heat of the day, certainly their honorable records deserve recognition and preservation. An association of past and present Acting Assistant Surgeons of the United States Army has been formed for the purpose of securing, so far as possible, a correct history of those who have served in this capacity, and also for mutual protection and benefit. The Association desires to obtain a complete list of all medical men who have served as Acting Assistant Surgeons, in the United States Army, and, so far as possible, their complete medical history, date and place of birth, date and place of graduation, date of appointment, medical service and stations, list of contributions to medical literature, inventions, etc., date of termination of service, professional positions held in civil life, present residence and address. All information from friends concerning deceased A. A. Surgeons will be gratefully received. All past and present Acting Assistant Surgeons are cordially invited to become members of the Association. The badge of the Association is the Geneva red cross. The enrollment fee is $1.00. The necessary blanks will be forwarded upon application to

W. THORNTON PARKER, M.D., Recorder A. A. A. S.,
Newport, R. I.

THE TELEPHONE has been extensively used by physicians in prescribing for their patients, and the story of the doctor who ordered its parents to hold the baby to the 'phone until it coughed and then ordered some medicine for whooping cough is familiar. But a St. Paul doctor will probably not trust this useful invention hereafter. He was requested over the wire to visit a sick child two miles away the other night, and not wanting to go prescribed over the 'phone and went back to bed. On making the call the next day he found the patient doing very well under the care of another doctor, and went back with a change of mind regarding the usefulness of Professor Bell's invention.—*Chicago Herald.*

THE TRI-STATE MEDICAL ASSOCIATION met at Memphis on Nov. 13. The attendance was large, embracing many of the leading physicians of Mississippi, Arkansas and Tennessee. The Association elected the following officers:

President—Dr. S. W. Sanford, Tennessee.
First Vice-President—Dr. J. Y. Murray, Mississippi.
Second Vice-President—Dr. L. L. Battle, Arkansas.
Third Vice-President—Dr. J. A. Battle, Tennessee.
Secretary—Dr. S. A. Rogers, Memphis.
Assistant Secretary—Dr. R. W. Pate, Memphis.
Treasurer—Dr. T. J. Crofford, Tennessee.

THE THIRD ANNUAL STATE SANITARY CONVENTION, under the auspices of the Kansas State Board of Health, will be held in the city of Emporia, Kansas, on Wednesday and Thursday, December 5 and 6, 1888. The first session will commence on Wednesday at 7:30 P.M. An interesting series of papers and discussions are promised. All the sessions are open and free for the public to attend. President, Hon. John R. Wright; Secretaries, J. W. Redden, M.D., of Topeka, and A. M. Hawont, of Emporia.

HEALTH OF CALIFORNIA.—Dr. G. G. Tyrrell, Secretary of the State Board of Health, in his report for October, says: Reports received from seventy-nine localities return the mortality for the month of October as 902 decedents in an estimated population of 726,850, or an annual death-rate of 14.88.

DR. F. H. PAYNE, who has practiced medicine for the last twelve years in Berkeley, Cal., has been appointed Director of Physical Culture at the University of California.

ADULTERATION OF FOOD.—According to a report made by the Dominion analyst, out of 909 food samples analyzed, 25 per cent. were found to be adulterated. Out of 81 samples of baking powder 45 were adulterated with foreign matter; 33 out of 117 samples of coffee were impure. Cream of tartar, bicarbonate of soda, butter, milk, mustard, and spices were largely composed of foreign and deleterious substances. A member of the Dominion parliament, Mr. Cochran, representing East Northumberland, has recently been heavily fined for selling skim milk. The minister of inland revenue states that he is determined to check the production and sale of spurious and adulterated articles of food, and with that object in view is prosecuting the offending parties when their guilt has been discovered.

THE ALBANY HOSPITAL.—From the report made for the year ended October 1, by Treasurer Joseph W. Russell, it is shown that 954 patients, 680 of whom were beneficiaries, were treated in the hospital and 7,421 in the dispensary, and 4,233 gratuitous prescriptions were given out. The expenses were $28,200. Of this sum $10,620 was spent for provisions and supplies and over $3,000 for medicines and medical supplies. The endowment fund was increased during the year by $11,000, sending it up to $39,000. The legacies amount to $11,000, and the year's donations and subscriptions to $7,000. Because of the extraordinary demand on the institution donations are solicited.

THE NATIONAL COMMISSIONER OF EDUCATION has issued a report upon examinations of pupils for imperfections of eye-sight. Color blindness is more prevalent amongst boys than girls. Of optical affections the highest percentage is found amongst children of Irish, Swedish and German blood. The lowest is amongst those of American, French, Scotch and English extraction

SMALL-POX PANIC IN SCRANTON.—The breaking out of small-pox at Kingston, Luzerne Co., Pa., has caused a panic through that section, which is in the very heart of the Wyoming coal regions. Close by are the mining towns of Luzerne, Maltby, Laskville, Edwardsville and Plymouth. Kingston lies between these places and Wilkesbarre, the county seat.

TYPHOID FEVER IN AN ORPHAN SCHOOL.—Reports from the Soldiers' Orphan School at McAllisterville, Juniata Co., Pa., confirm the rumor of the ravages of typhoid fever among the pupils of that school. It is known that a number of cases exist, and the number is estimated at from twenty-five to forty.

THE MEDICO-CHIRURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA has elected the following officers for the ensuing year: Robert Reyburn, President; A. Tangusta, first Vice-President; P. P. Werner, second Vice-President; F. J. Shadd, Treasurer; J. R. Francis, Librarian; L. A. Harver, Secretary; and S. R. Watts, Corresponding Secretary.

DR. H. D. SCHMIDT, the distinguished pathologist, for many years connected with the Charity Hospital of New Orleans, died on Nov. 23.

THE NORTH TEXAS MEDICAL ASSOCIATION will meet in Sherman, Texas, Tuesday, Wednesday and Thursday, December 11th, 12th and 13th, 1888.

LOS ANGELES SEWERAGE, it is said, is now receiving the much needed attention of Dr. H. S. Orme, a member of the California State Board of Health.

"THE TONGUE" is the title of a new paper, edited by a New Jersey physician. Of course all the doctors will wish to see it.

DR. PERCIVAL H. FLYNN, of New York, died on Nov. 17 in consequence of an overdose of morphia.

A HOSPITAL FOR CONTAGIOUS DISEASES is to be built at Worcester, Mass.

ST. CLAIR COUNTY, Mich., urged to action by the recent small-pox scare at Sarnia, will build a new pest house.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department U. S. Army, from November 17, 1888, to November 23, 1888.

Lieut.-Col. Richard H. Alexander, Surgeon, is granted leave of absence for four months, by direction of the Secretary of War, to take effect from the date of his relief from duty as Medical Director Dept. Ariz. by Lieut.-Col. Joseph R. Smith, Surgeon. Par. 11, S. O. 268, A. G. O., Washington, November 16, 1888.

Lieut.-Col. Smith, after being relieved by Lieut.-Col. Alden, will report in person to the commanding officer Dept. of Ariz. for duty as Medical Director of that Department, relieving Lieut.-Col. Richard H. Alexander. Par. 10, S. O. 268, A. G. O., Washington, November 16, 1888.

Surgeon William E. Waters, Vancouver Bks., is granted leave of absence for one month, to take effect on or about the 1st prox., with permission to apply for an extension of one month. Par. 1, S. O. 129, Hdqrs. Dept. of the Columbia, November 9, 1888.

Lieut.-Col. Charles H. Alden, Surgeon, is relieved from further duty at the U. S. Military Academy, West Point, N. Y., and will report in person to the commanding General Dept. of Dakota for duty as Medical Director of that Department, relieving Lieut.-Col. Joseph R. Smith, Surgeon. Par. 10, S. O. 268, A. G. O., Washington, November 16, 1888.

By direction of the Secretary of War, Major Charles Smart, Surgeon, will proceed to Milwaukee, Wis., to represent the Medical Department of the Army at the meeting of the American Public Health Association in that city November 20 to 23, 1888, and upon the adjournment of the Association will return to his proper station. Par. 2, S. O. 268, A. G. O., Washington, November 16, 1888.

Capt. Richard C. Newton, Asst. Surgeon, is granted leave of absence for four months, by direction of the Secretary of War. Par. 16, S. O. 272, A. G. O., Washington, November 21, 1888.

By direction of the Secretary of War, the leave of absence granted Capt. Marshall W. Wood, Asst. Surgeon, in S. O. 257, November 3, 1888, from this office, is extended ten days. Par. 12, S. O. 270, A. G. O., Washington, November 19, 1888.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending November 24, 1888.

P. A. Surgeon A. C. Heffinger, ordered to the U. S. Str. "Kearsarge."

Asst. Surgeon Patrick H. Bryant, ordered to the Naval Hospital, Brooklyn, N. Y.

Surgeon Daniel McMurtrie, ordered to the U. S. receiving ship "Vermont."

Surgeon M. C. Drennan, detached from "Vermont" and to the "Atlantic."

Surgeon G. F. Winslow, detached from the "Atlantic" and placed on waiting orders.

P. A. Surgeon W. A. McClurg, detached from the "Tallapoosa" and to the "Kearsarge."

Asst. Surgeon L. L. von Wedikind, ordered to the "New Hampshire."

P. A. Surgeon A. C. Heffinger, detached from the "Kearsarge" and to the "Tallapoosa."

Surgeon B. F. Stephenson, detached from Navy Yard, Boston, and to the "Wabash."

Medical Director A. S. Oberly, ordered to the U. S. Str. "Richmond."

Surgeon W. H. Jones, detached from the U. S. Str. "Richmond" and wait orders.